

OPERATIVE PROCEDURE

O P E R A T I V E P R O C E D U R E

This book was first published in the United States of America, where it has proved of great service to surgeons and medical students alike

The few copies which reached this country were so warmly welcomed that the publishers decided to print a British edition of the book

Text and illustrations remain identical with those in the original American edition

Johnson & Johnson
(GREAT BRITAIN) LIMITED

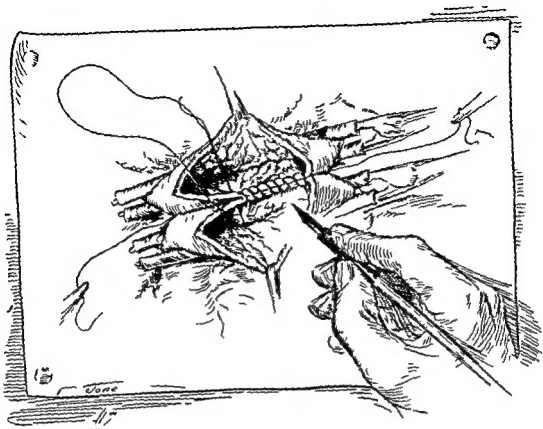
Slough Bucks England

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1939

JOHNSON & JOHNSON

Printed and made in England at the Fanfare Press London



The Origin and Function of the 'Operative Procedure' Series

This series of plates published by Johnson & Johnson in the leading surgical journals of the United States of America was prepared in collaboration with the staff of Surgery Gynecology and Obstetrics

THE SURGEON who casually views or carefully studies these illustrations will realize that they are not to be found elsewhere in medical or surgical literature. As originals, it is understood that they have to be carefully prepared but the amount of effort expended in selecting the subject and then later selecting the important steps to be illustrated may not be comprehended as quickly.

There is probably no branch of science or art which has given more evidence of progress in the last two decades than the science of surgical technique. The perfection of older methods and originality in new methods have given to the world a mass of material which is worthy of careful immediate study and preservation for future reference.

The selection of the subjects in this series was made with the help of several surgeons whose practice and experience enabled the pointing out of not only the most timely technique but likewise the outstanding steps. In this way the artist was furnished with material from which he might accurately illustrate approved technique in a new and original manner.

LIGATURE DEPARTMENT
JOHNSON & JOHNSON
SLOUGH BUCKS

SUTURE TECHNIQUE (NO 1)

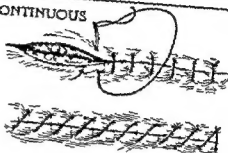
PURSE STRING



Tied



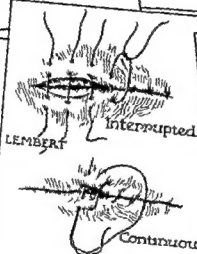
CONTINUOUS



Two types



CUSHING

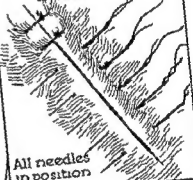


LEMBERT

Interrupted

Continuous

INTERRUPTED



All needles
in position

SUBCUTICULAR



Perforated
shot

Closure

T Jones

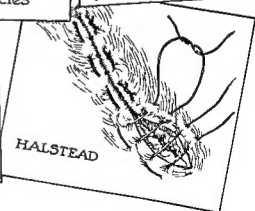
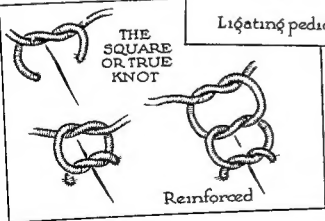
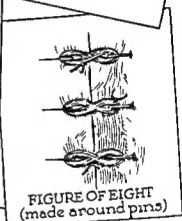
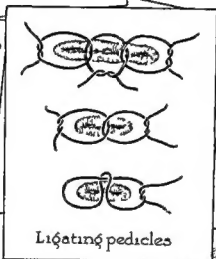
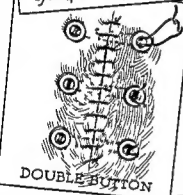
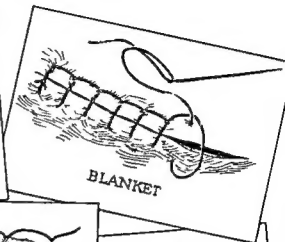
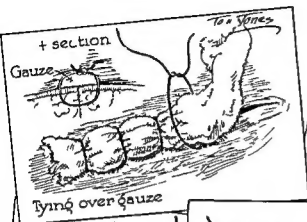
MATTRESS



Continuous

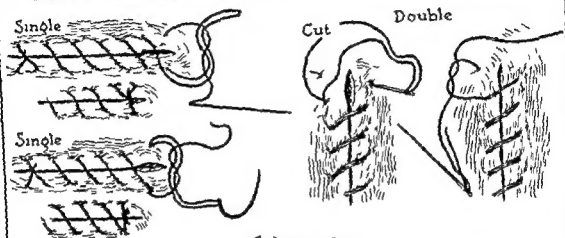
Interrupted

SUTURE TECHNIQUE (NO 2)

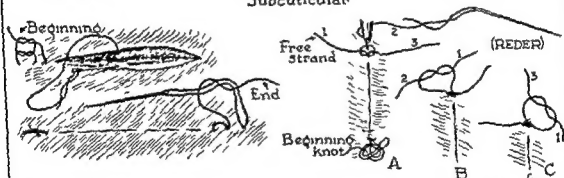


SUTURE TECHNIQUE (NO 3)

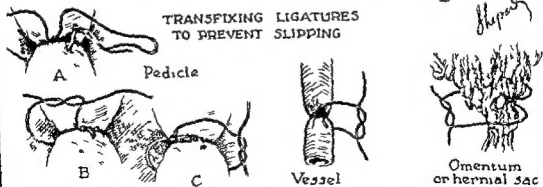
METHODS FOR SECURING THE ENDS OF CONTINUOUS SUTURES



Subcuticular

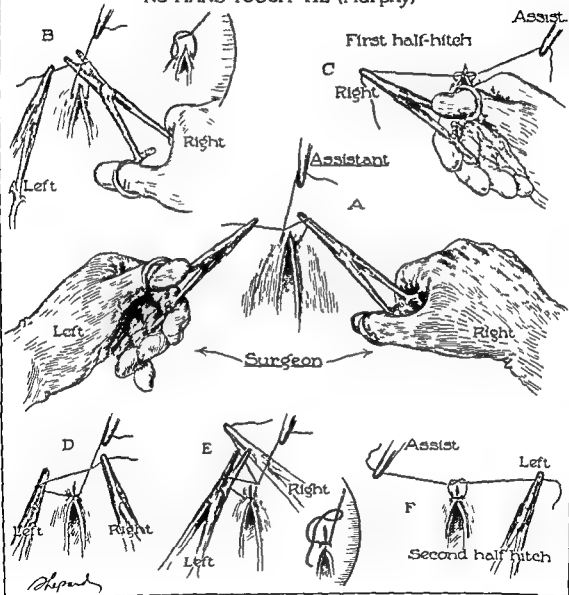


TRANSFIXING LIGATURES TO PREVENT SLIPPING

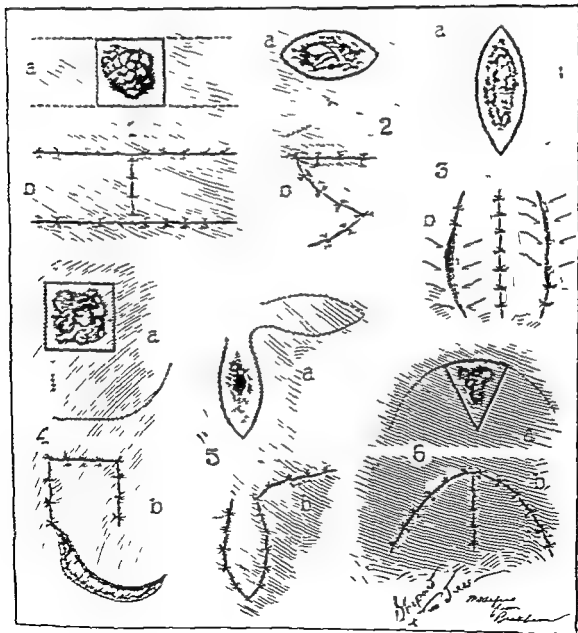


SUTURE TECHNIQUE (NO 4)

NO HAND-TOUCH TIE (Murphy)

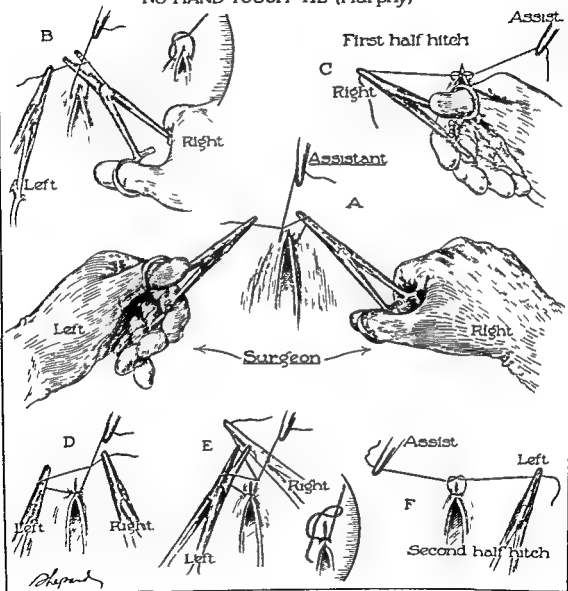


CLOSURE OF SKIN DEFECTS

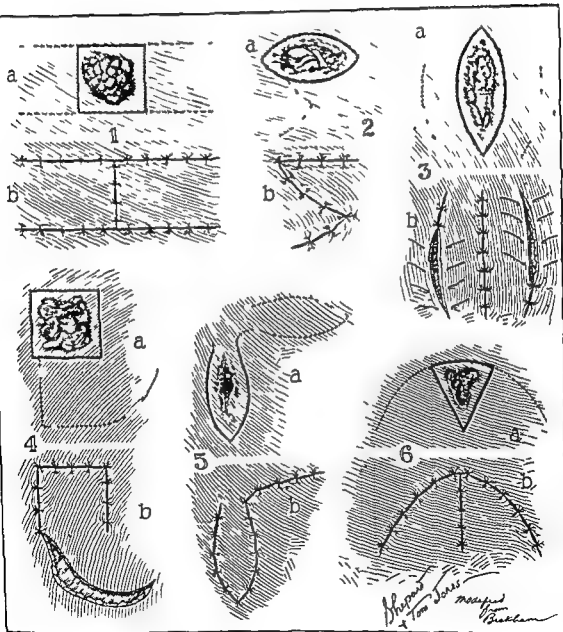


SUTURE TECHNIQUE (NO 4)

NO-HAND-TOUCH TIE (Murphy)

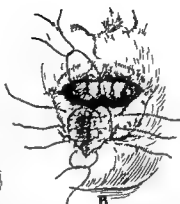


CLOSURE OF SKIN DEFECTS



RESECTION FOR EPITHELIOMA OF LIP

EARLY CASE

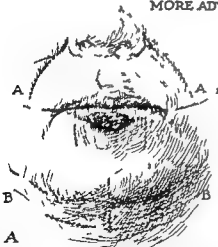


C

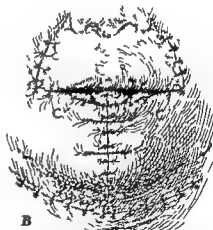
Sutures tied (Note full-
ness in center to prevent
subsequent notching)



MORE ADVANCED CASE

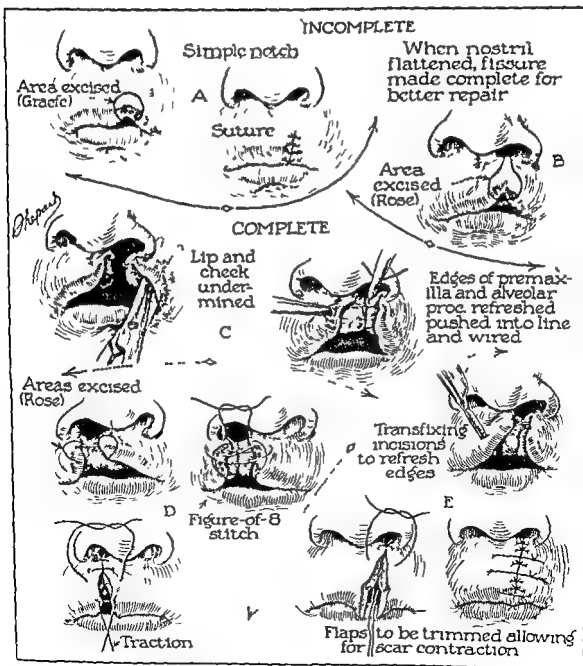


Incisions AA Triangles of skin
removed to permit reconstruc-
tion of lower lip BB Incision
for removal of lymph nodes

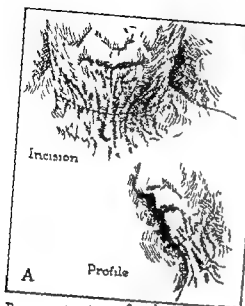


Operation completed Note
reconstructed vermillion
border CC of mucous
membrane of cheek

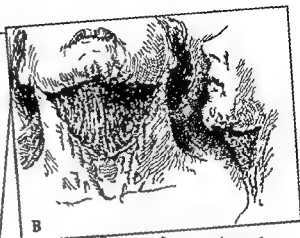
OPERATIONS FOR HARELIP—SINGLE CLEFT



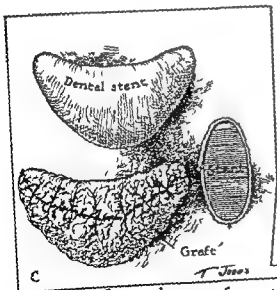
SKIN GRAFTING—INLAY GRAFTS



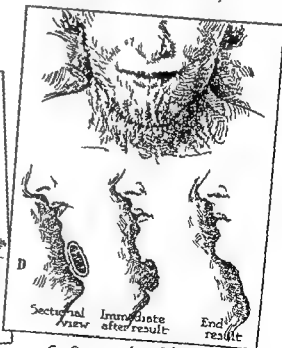
Burn contracture of neck



Raw surface resulting from simple division of scar and freeing of tension

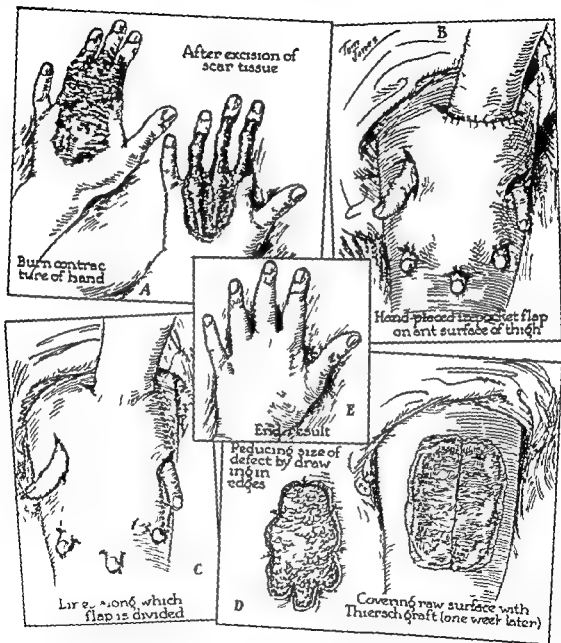


Graft with raw surface outward wrapped about mold of dental stent

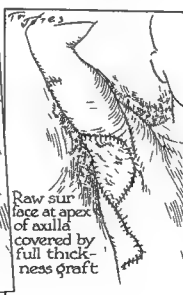


Graft covered mold buried in raw surface

SKIN GRAFTING FOR BURN CONTRACTURE



TREATMENT OF BURN CONTRACTURE OF AXILLA



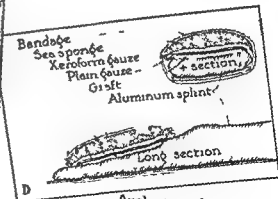
SKIN GRAFTING IRL IULI THICKNESS GRAITS



Extent of raw surface resulting from excision of scar

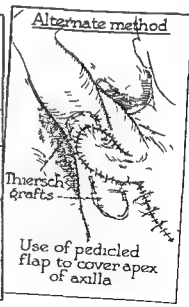
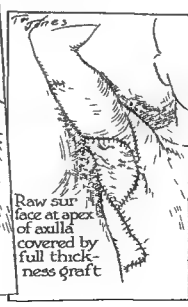


Suture of graft completed with fine sutures

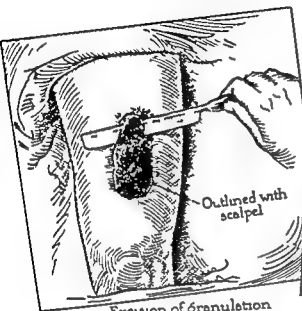


Application of pressure dressing over graft

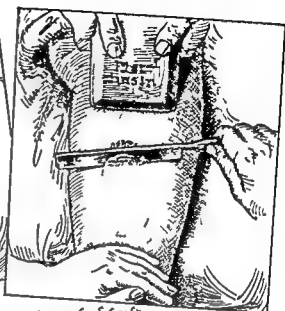
TREATMENT OF BURN CONTRACTURE OF AXILLA



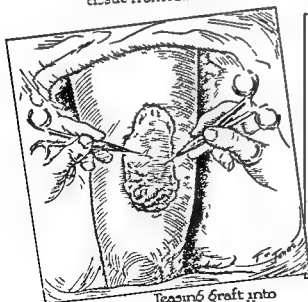
SKIN GRAFTING—SPLIT GRAFTS



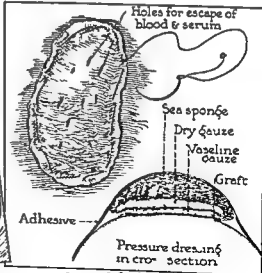
Excision of granulation tissue from raw area



Cutting of graft
Skin under tension

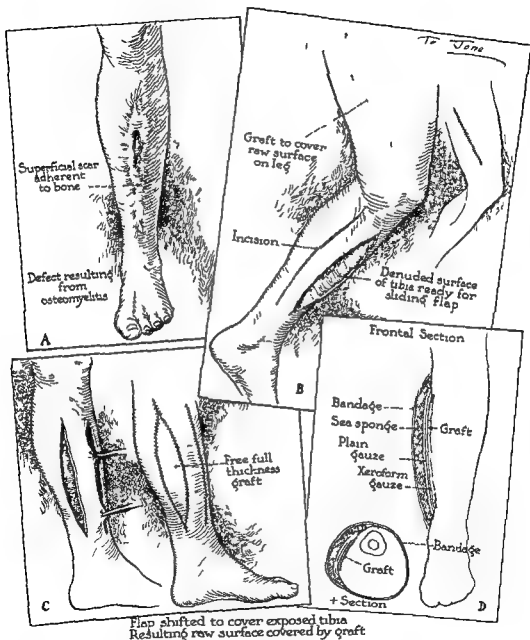


Teasing graft into position with needles



Anchoring graft with fine skin suture

FULL THICKNESS GRAFT WITH SLIDING FLAP

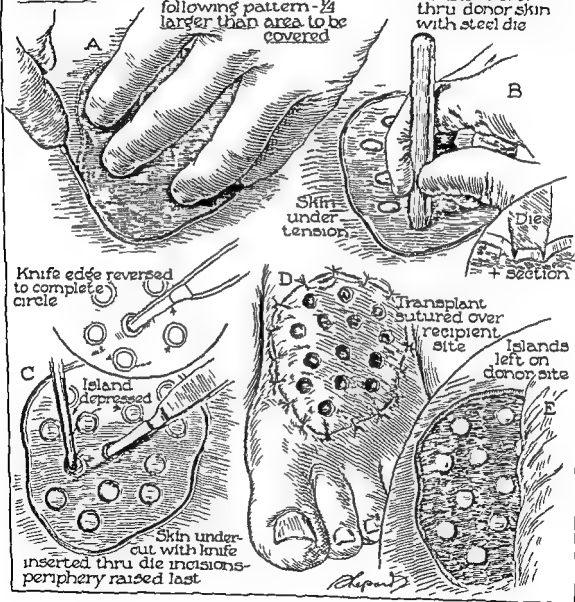


SKIN GRAFTING—SIEVE GRAFT (NO 1)

DOUGLAS

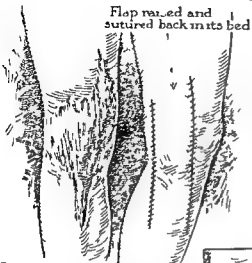
Donor skin incised
following pattern— $\frac{1}{4}$
larger than area to be
covered

Islands bored
thru donor skin
with steel die

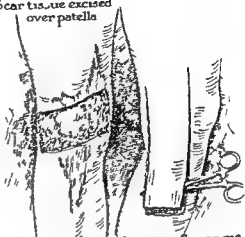


DELAYED PEDICLED FLAP

Flap raised and sutured back in its bed



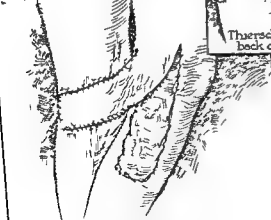
Scar tissue excised over patella



Previously raised flap on medial surface of other leg healed and ready to be transferred

Burn contracture over anterior surface of knee preventing flexion

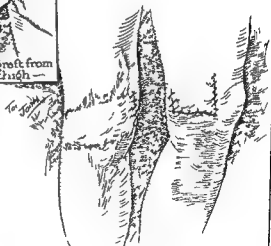
Flap sutured in position



Raw surface left by elevation of flap immediately covered by Thiersch Graft

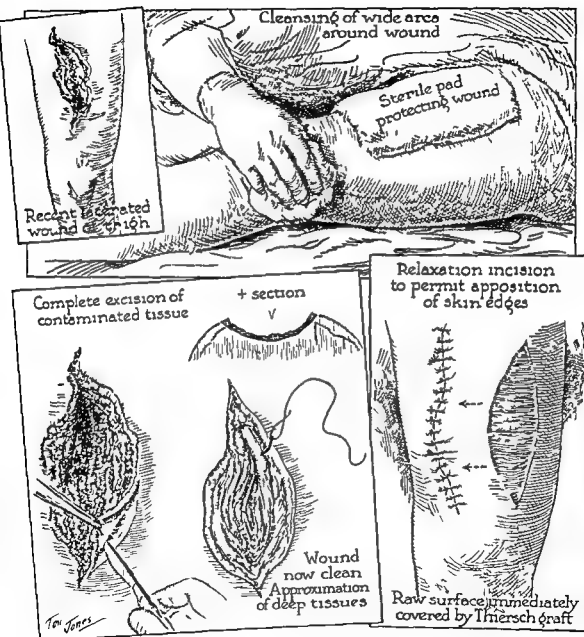


Thiersch Graft from back of thigh



Result after division of flap and suture of remaining raw surface

IDEAL TREATMENT OF LACERATED WOUND



SKIN GRAFTING—SIEVE GRAFT (NO 2)

DRAGSTEDT-WILSON

Oval shaped
full-thickness
transplant taken
from abdomen

A

Comparison
of recipient
and donor
areas

Transplant
placed on towel
moistened with
salt solution

B

Multiple
overlapping
incisions

Sieve graft sutured
to recipient site

C

Axis of unstretched
graft



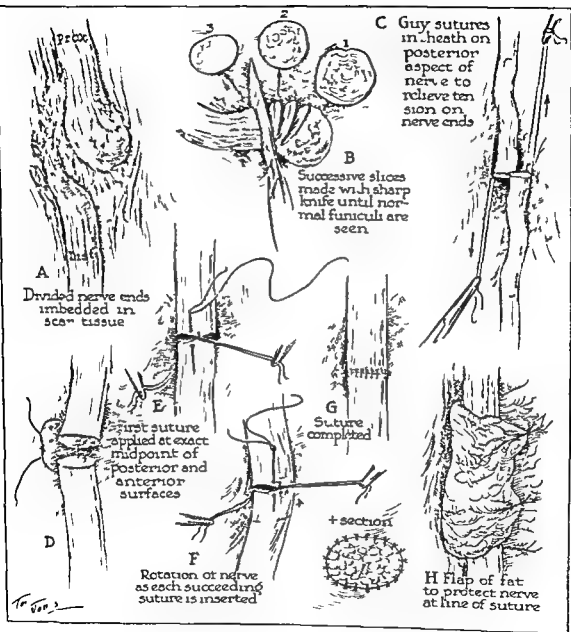
Graft
can be stretched
to fit varied shapes

Skin defect closed
over donor site

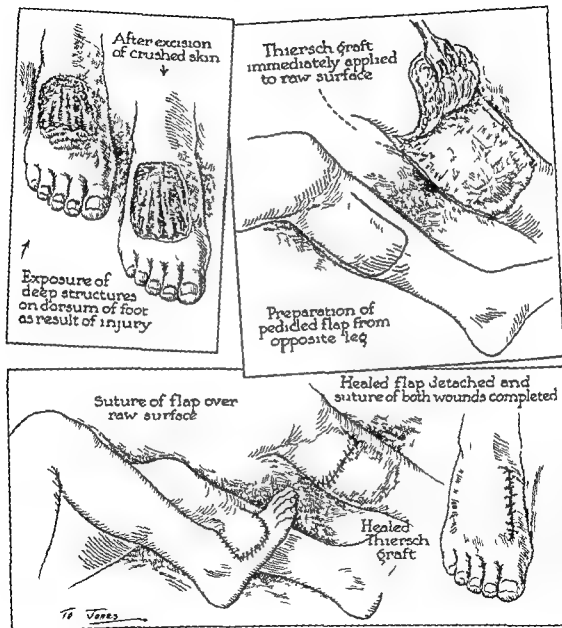
D

Thapar

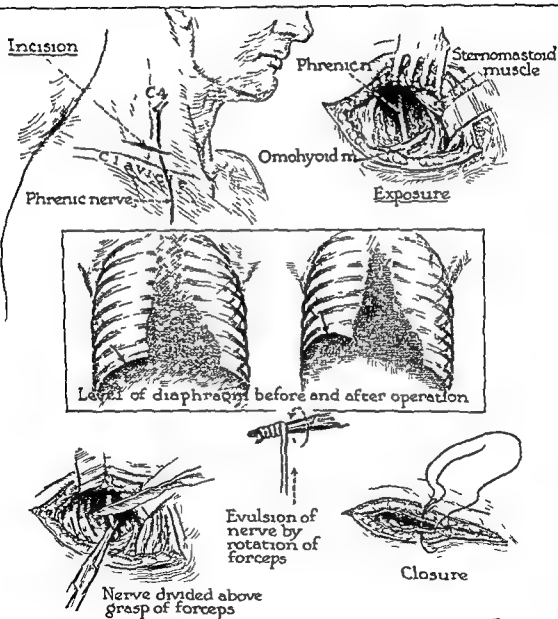
TECHNIQUE OF NERVE SUTURE



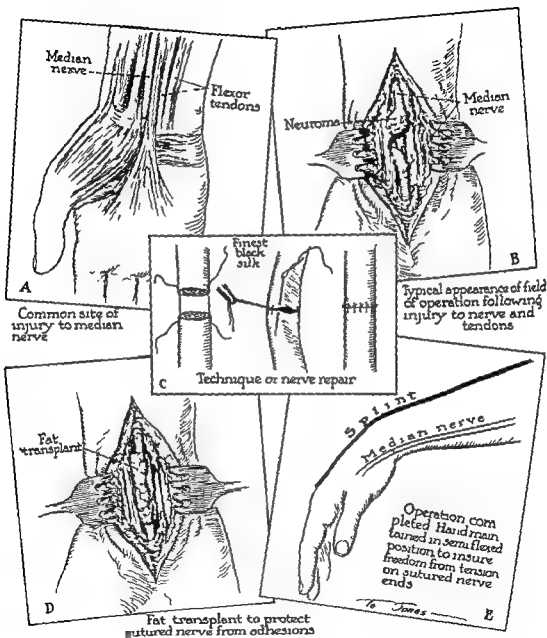
IMMEDIATE TREATMENT OF CRUSHING INJURY OF FOOT



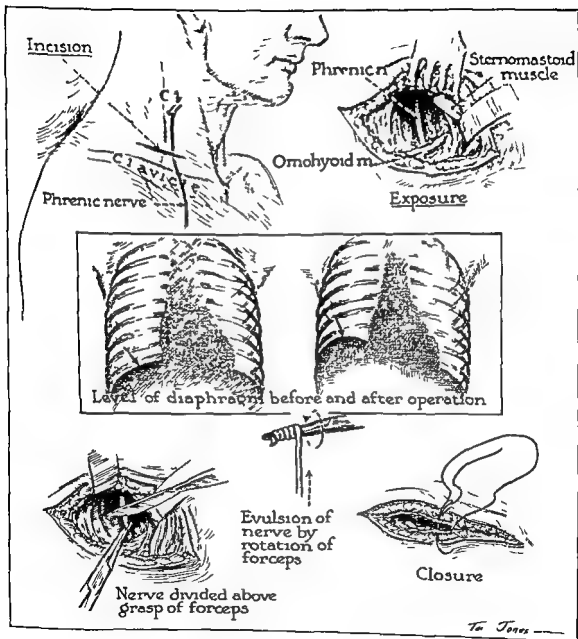
PHRENIC NEURECTOMY



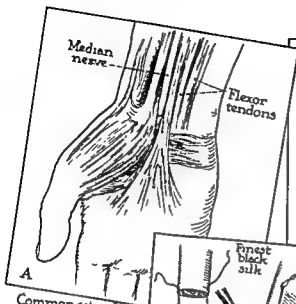
NERVE SUTURE



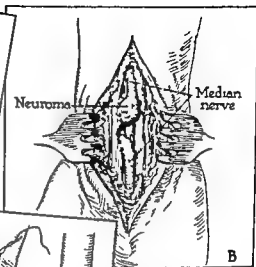
PHRENIC NEURECTOMY



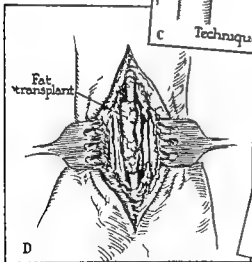
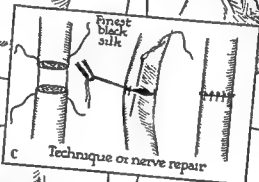
NERVE SUTURE



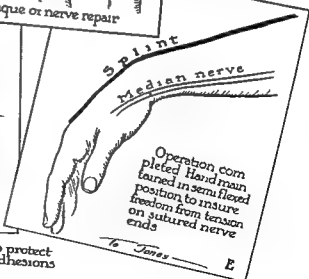
A
Common site of injury to median nerve



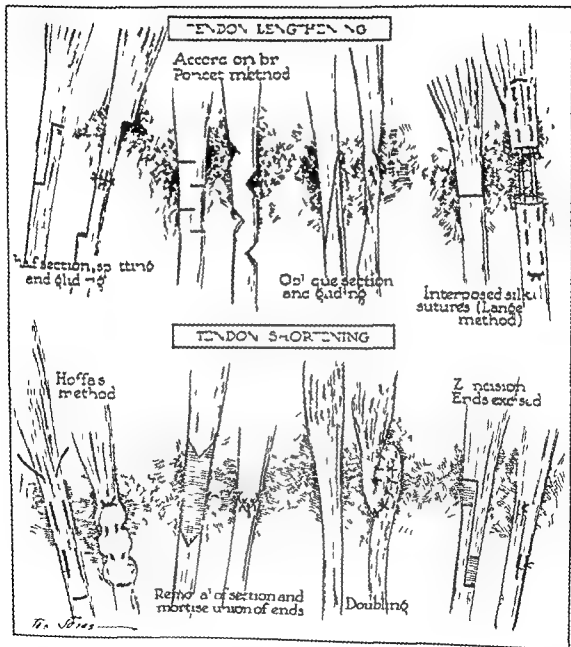
B
Typical appearance of field of operation following injury to nerve and tendons



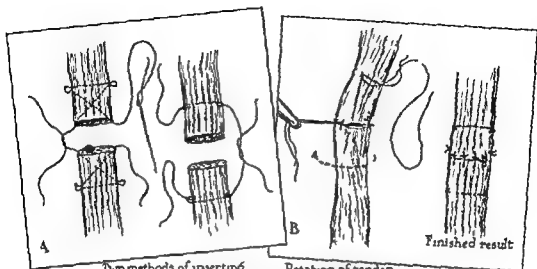
D
Fat transplant to protect sutured nerve from adhesions



TENDON LENGTHENING AND SHORTENING

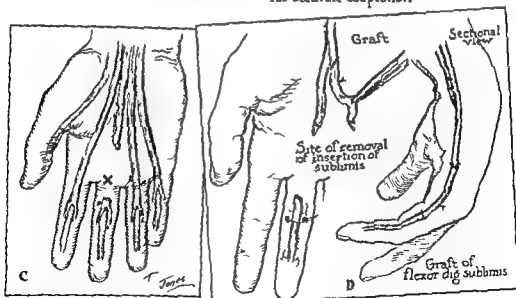


TENDON SUTURES



Two methods of inserting stay sutures in divided tendons

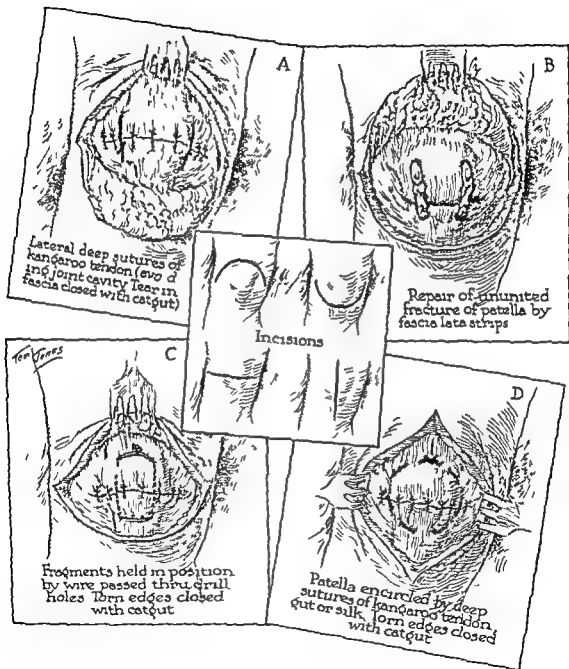
Rotation of tendon to permit insertion of sutures for accurate coaptation



A common site (x) of tendon injury with resulting retraction of tendon ends

Technique of repair (Finger semi flexed)

REPAIR OF FRACTURED PATELLA



REPAIR OF RECURRENT DISLOCATION OF PATELLA

Normal position of
patella

A
Deformity
and incision

B
Patellar lig freed
up to near joint
cavity Attach-
ment removed
in bony block

C
Block of bone
with patellar lig
detached New
site being
chiseled
out

Before
operation

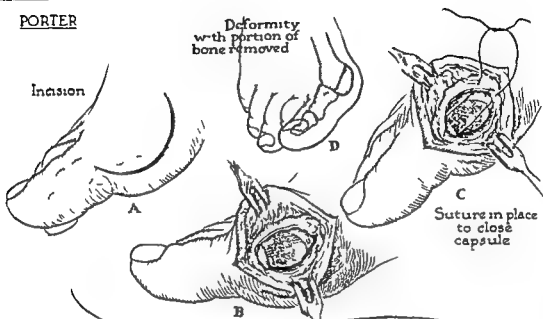
After
operation

Patella

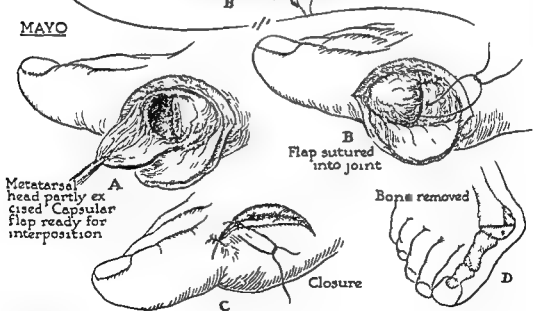
D
First block
in new site
Second block in-
serted in bed of
first Periosteum sewed
over to hold blocks in place

OPERATIVE TREATMENT OF BUNIONS

PORTER



MAYO



REMOVAL OF SEMILUNAR CARTILAGE

Tourniquet applied

A

Skin incisions

B

Knee flexed over end of table

Towels clipped to skin edges

C

Patellar ligament and fat pad retracted

E

Joint manipulated with patient's foot between knees of surgeon

D

Joint capsule opened between clamps

Medial meniscus dissected from head of tibia

F

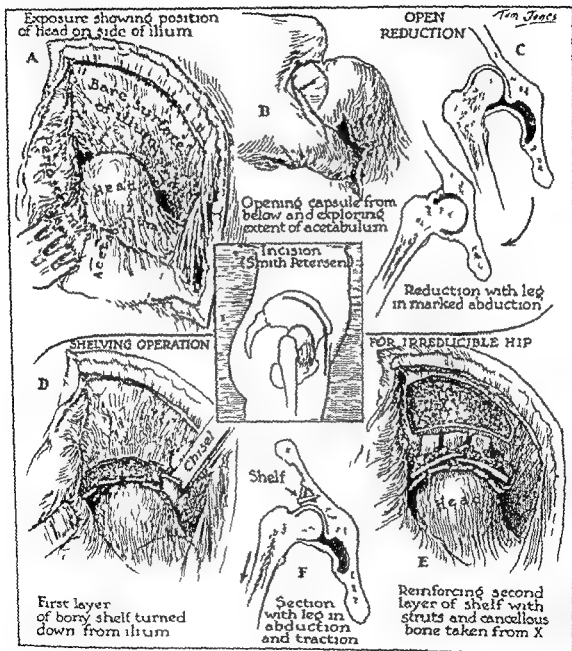
Use of special knife (Lowe Breck)

Suture of capsule fascia and skin

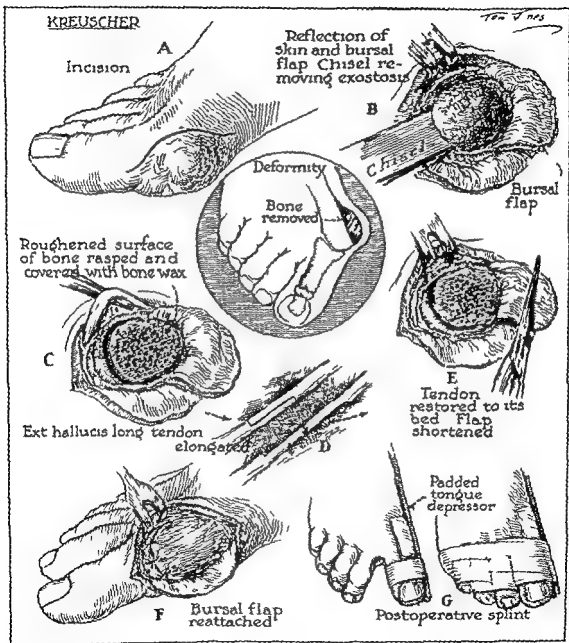
G

Shepard

OPERATION FOR CONGENITAL DISLOCATED HIP



OPERATIVE TREATMENT OF BUNIONS (NO 2)

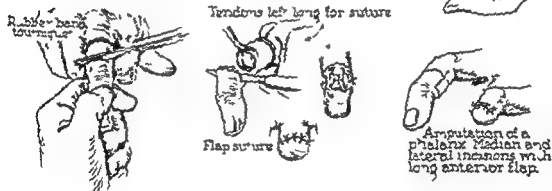


AMPUTATION OF THE DIGITS

METACARPOPHALANGEAL DISARTICULATION AND AMPUTATION PROXIMAL TO THE METACARPAL HEAD



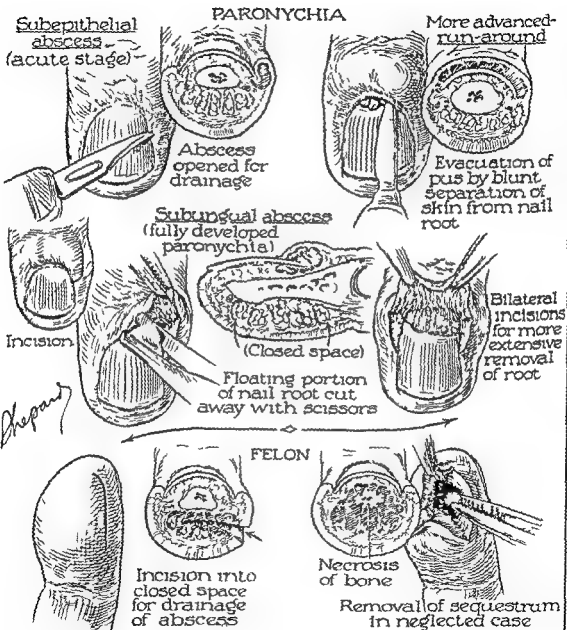
INTERPHALANGEAL DISARTICULATION



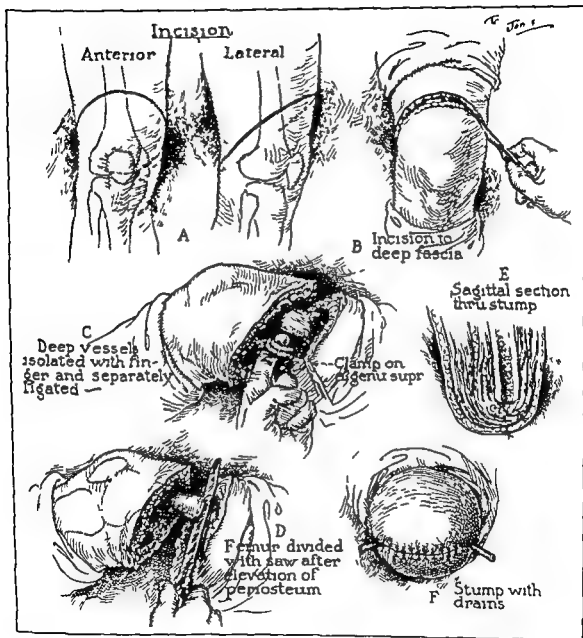
DISARTICULATION OF THE TOES



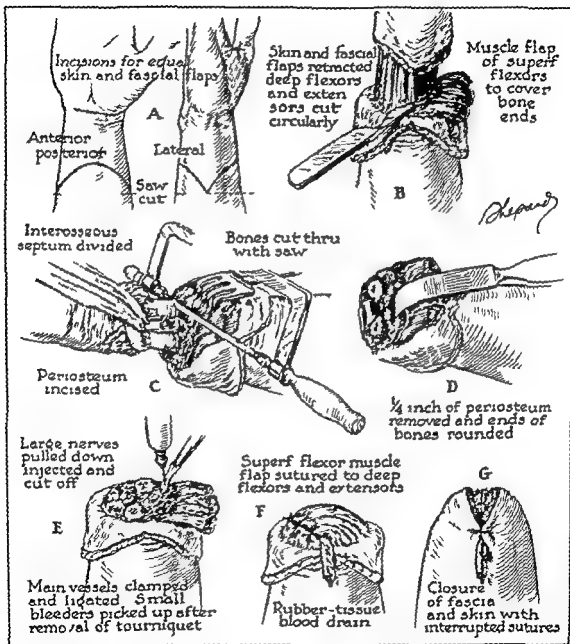
SURGICAL TREATMENT FOR PARONYCHIA AND FELON



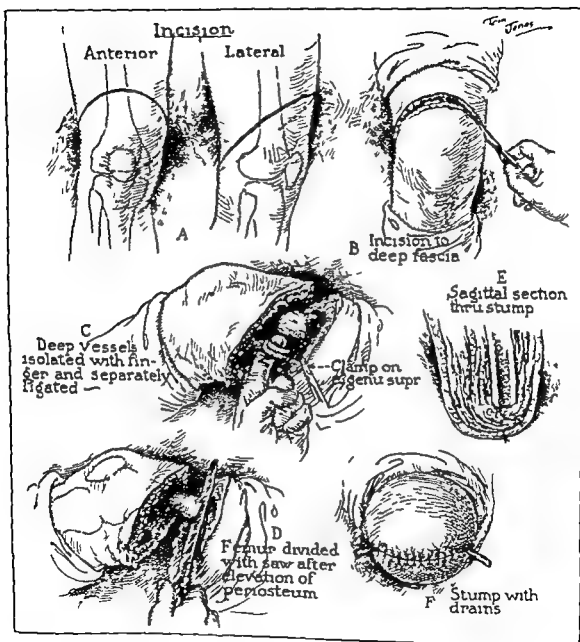
AMPUTATION FOR GANGRENE OF LOWER EXTREMITY



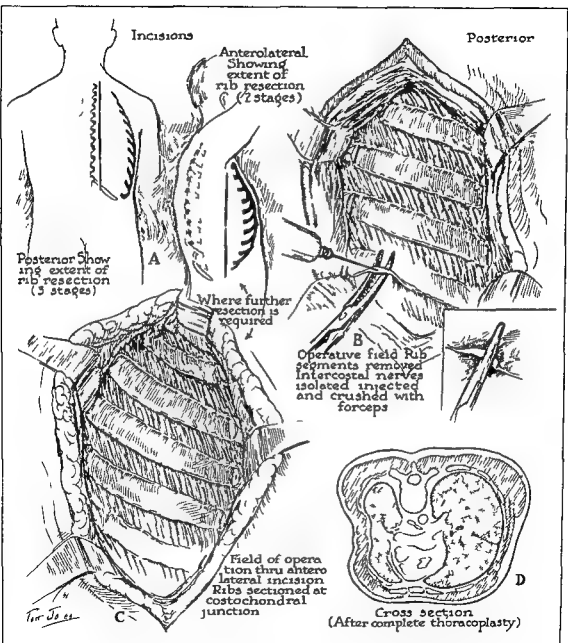
AMPUTATION OF FOREARM



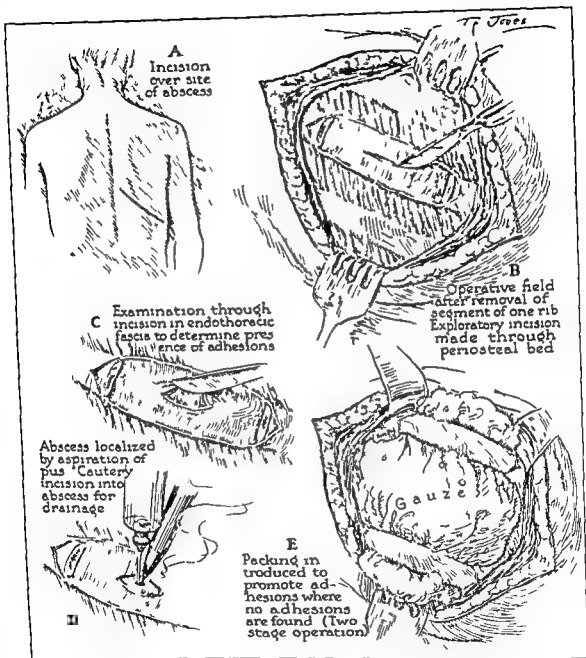
AMPUTATION FOR GANGRENE OF LOWER EXTREMITY



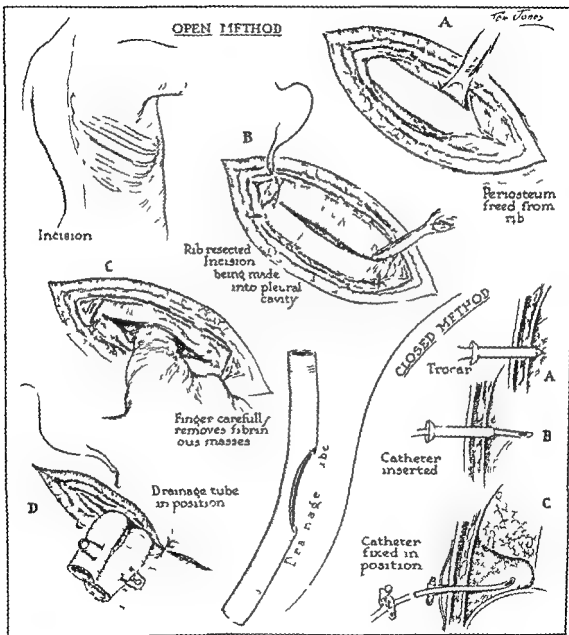
THORACOPLASTY



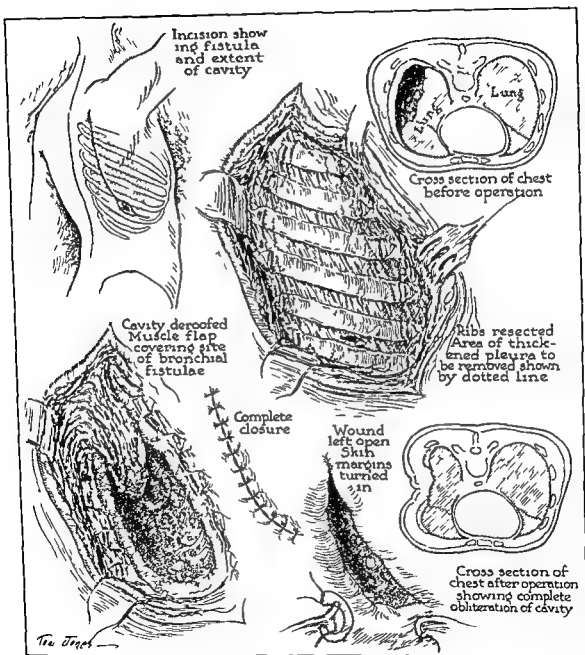
SURGICAL TREATMENT OF LUNG ABSCESS



SURGICAL TREATMENT OF ACUTE EMPYEMA

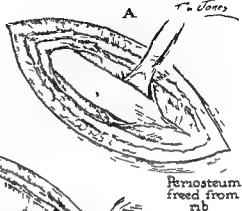
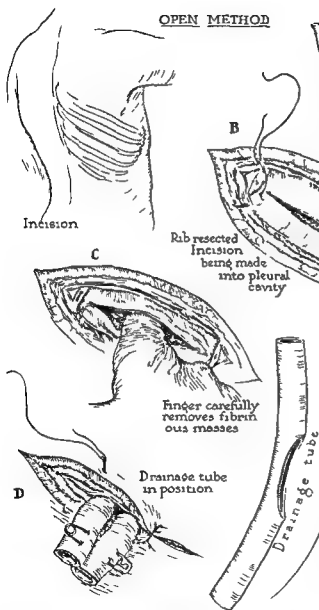


SURGICAL TREATMENT OF ACUTE EMPYEMA

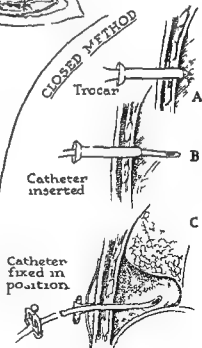


SURGICAL TREATMENT OF ACUTE EMPYEMA

OPEN METHOD

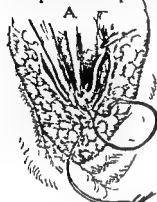


CLOSED METHOD



CLOSURE OF RECTUS INCISION

Suture anchored at lower angle of ext rectus and then passed thru peritoneum

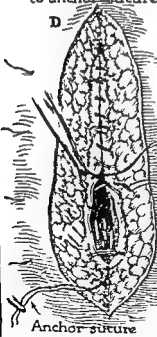


Suture continued as running stitch closing peritoneum and post rectus fascia

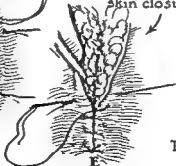


Placing figure of 8 tension sutures of silkworm gut

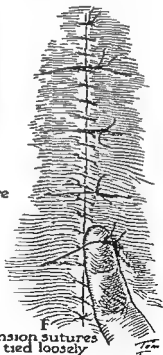
Closure of ext rectus fascia tied at conclusion to anchor suture



Beginning skin closure

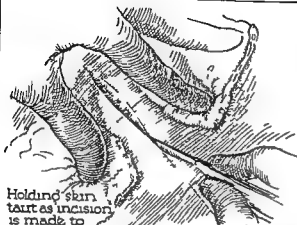


Tension sutures tied loosely

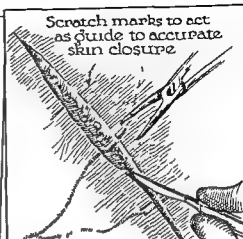


Tom Jones

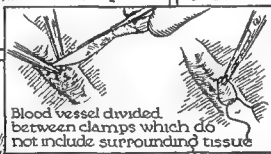
INCISION AND CLOSURE OF WOUNDS



Holding skin taut as incision is made to facilitate accurate technique.

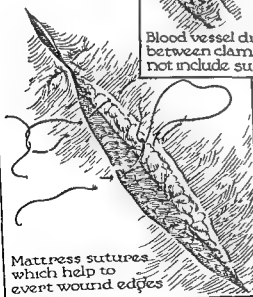


Scratch marks to act as guide to accurate skin closure

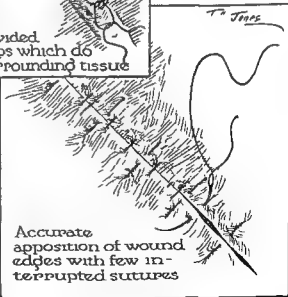


Blood vessel divided between clamps which do not include surrounding tissue

Blood vessel exposed and isolated before division

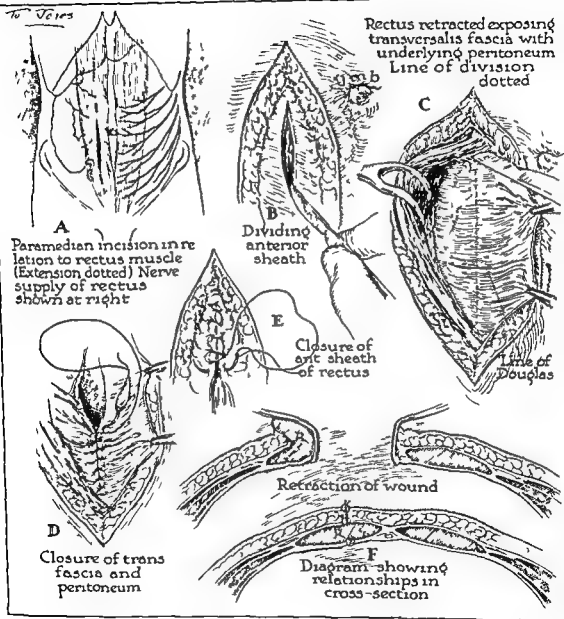


Mattress sutures which help to evert wound edges

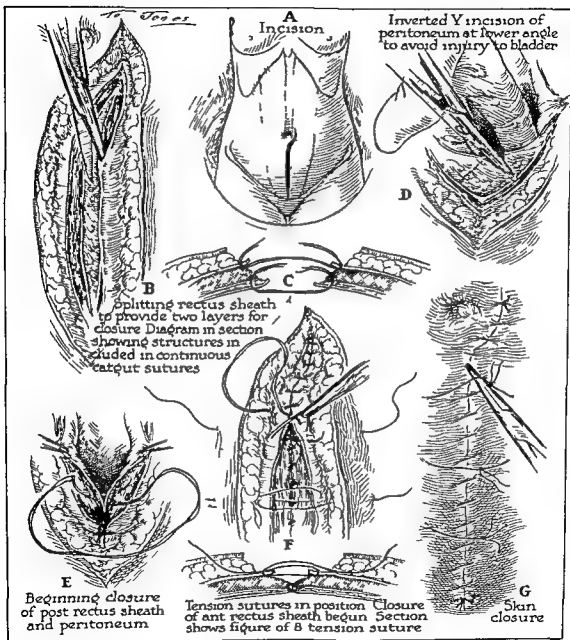


Accurate apposition of wound edges with few interrupted sutures

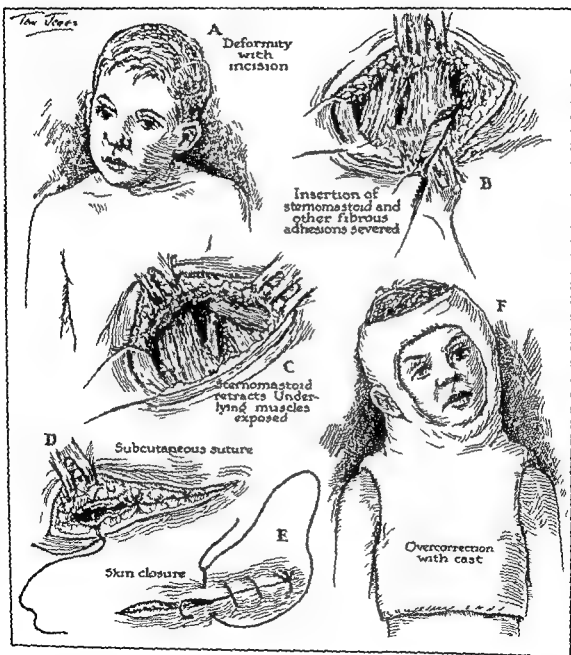
PARAMEDIAN INCISION FOR LAPAROTOMY



THE LOW MIDLINE INCISION



OPERATION FOR TORTICOLLIS



ABDOMINAL INCISIONS

CONSERVING INNERVATION OF THE RECTI

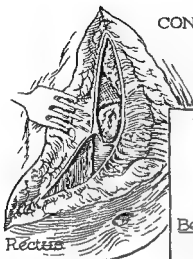
BEVAN
(Gall bladder on right
side spleen on left)

Initial incisions and
nerve supply

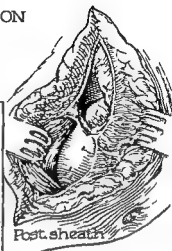
Bevan

Sloan

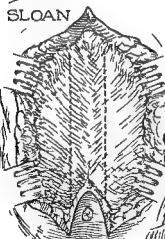
Pfannenstiel



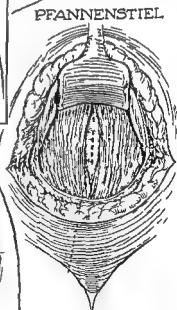
Rectus



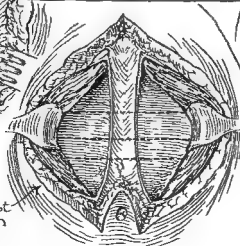
Post. sheath



Ant
sheath



PFANNENSTIEL

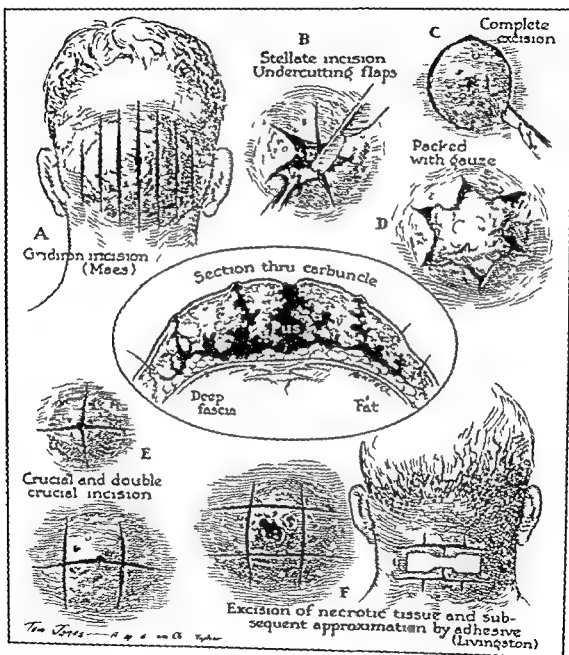


Optional
levels post
sheath

Shepard

Transversalis
fascia

SURGICAL TREATMENT OF CARBUNCLE



SUBTEMPORAL DECOMPRESSION

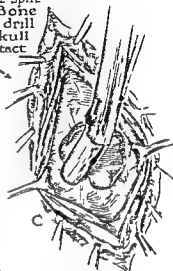


A
Site of incision
showing relation
ship of brain
and temporal
artery

Temporal muscle split
and retracted Bone
forceps enlarge drill
opening in skull
Dura still intact



B
Bleeding con-
trolled by fin-
ger pressure as
scalp is incised



C
Temporal artery
ligated



D
Dura lifted
from brain
by hook and
incised



E
Dura divided
Note ligation of
mid meningeal art.

Separate clos-
ure of temporal
muscle and Galea
aponeurotica



F

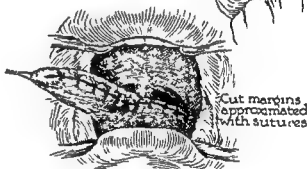
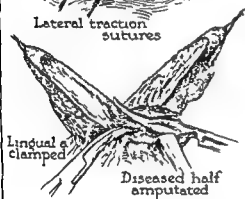
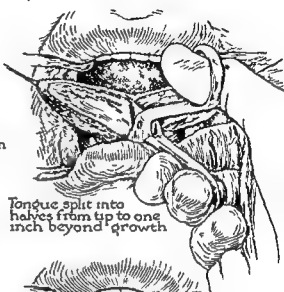
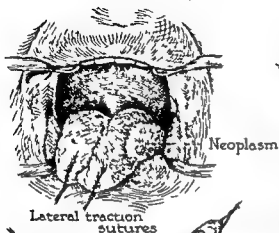


G
Skin closure

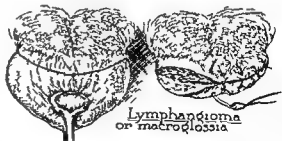
THE JONES
ASAC FREELAH

PARTIAL RESECTION OF THE TONGUE

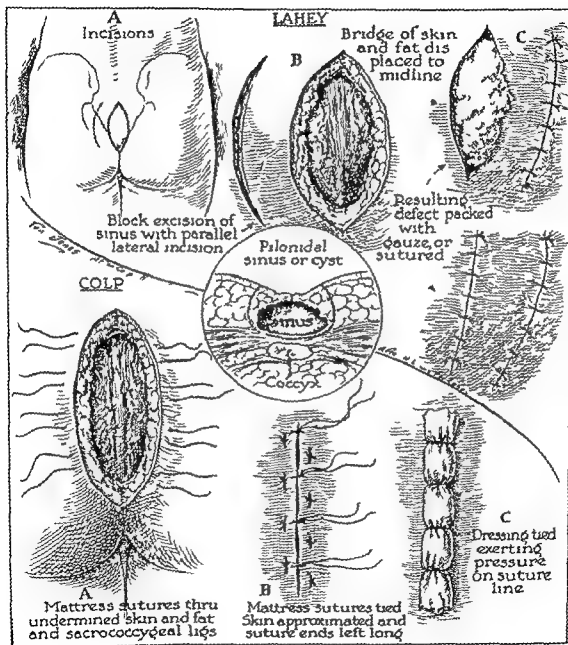
RESECTION OF LATERAL HALF OF TONGUE FOR MALIGNANCY (WHITEHEAD)



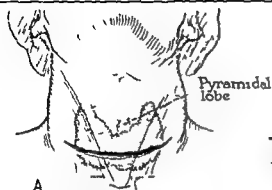
RESECTION FOR NON MALIGNANCY



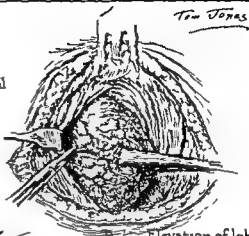
OPERATIVE TREATMENT OF PILONIDAL SINUS



THYROIDECTOMY

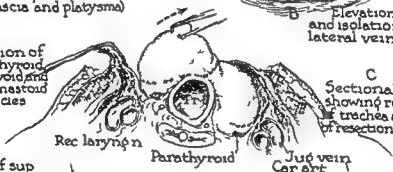


A
Incision
(Passing thru skin
fat fascia and platysma)



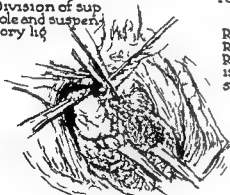
B
Elevation of lobe
and isolation of
lateral vein

Retraction of
sternothyroid,
sternohyoid and
sternomastoid
muscles



C
Sectional view
showing rotation
of trachea and line
of resection (dotted)

Division of sup
pole and suspensory lig



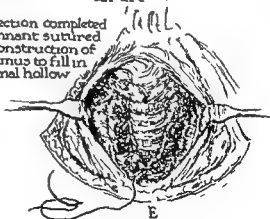
D

Rec larynx n

Parathyroid

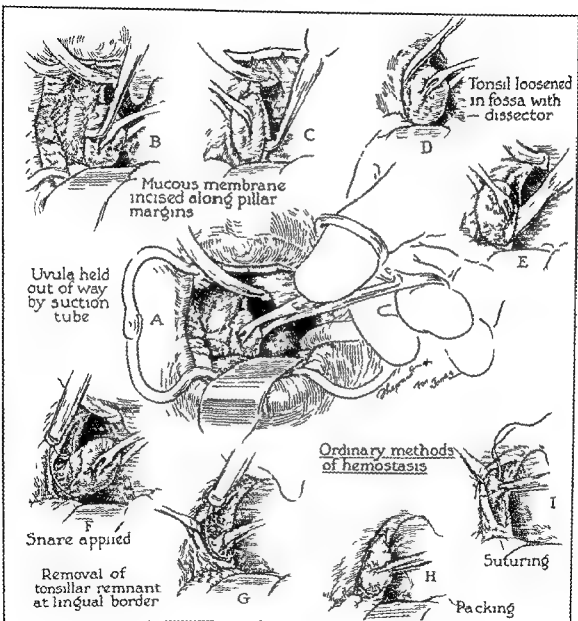
Jug vein
Car art

Resection completed
Remnant sutured
Reconstruction of
isthmus to fill in
sternal hollow

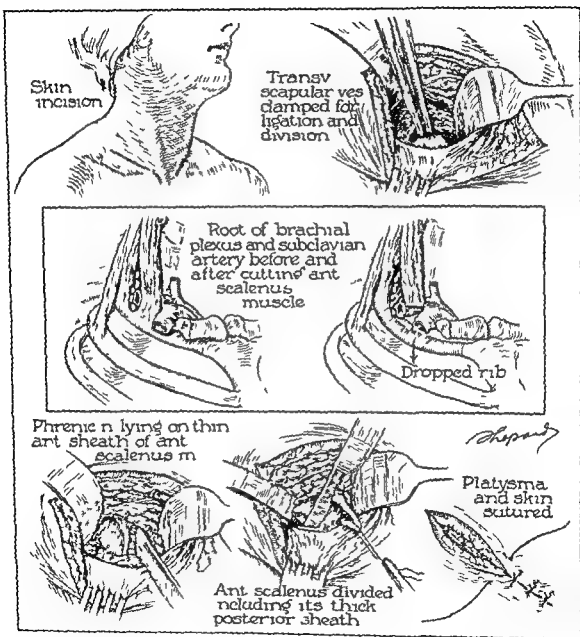


E

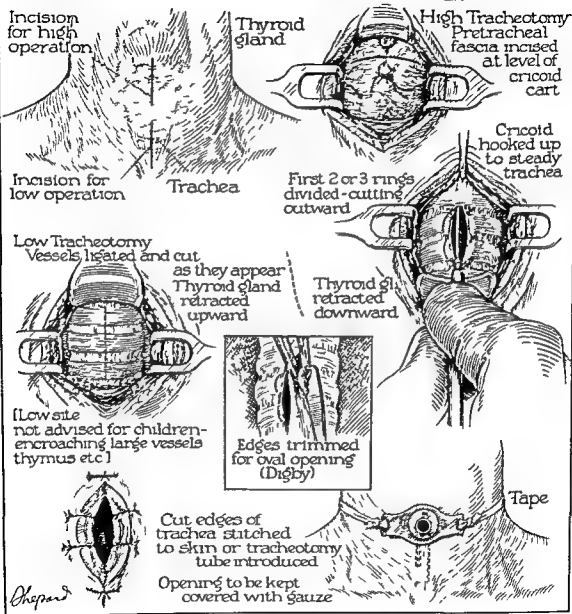
TONSILLECTOMY



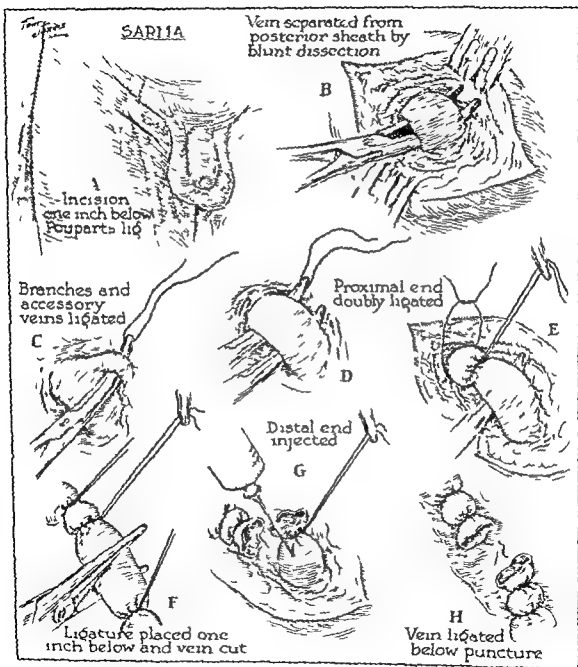
SCALENUS ANTICUS SYNDROME



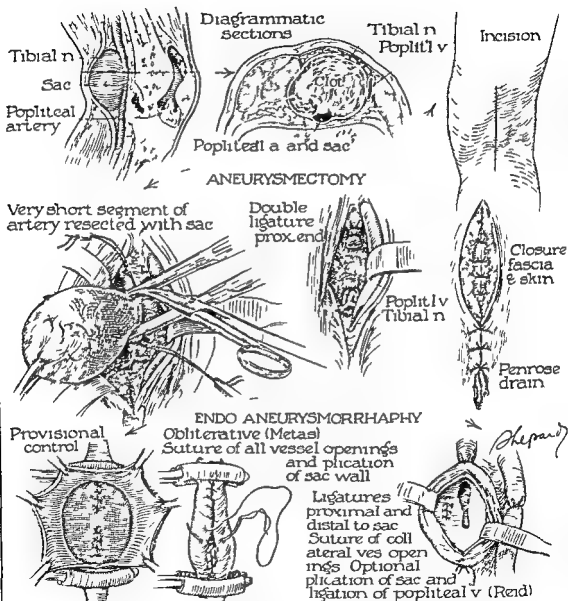
TRACHEOTOMY



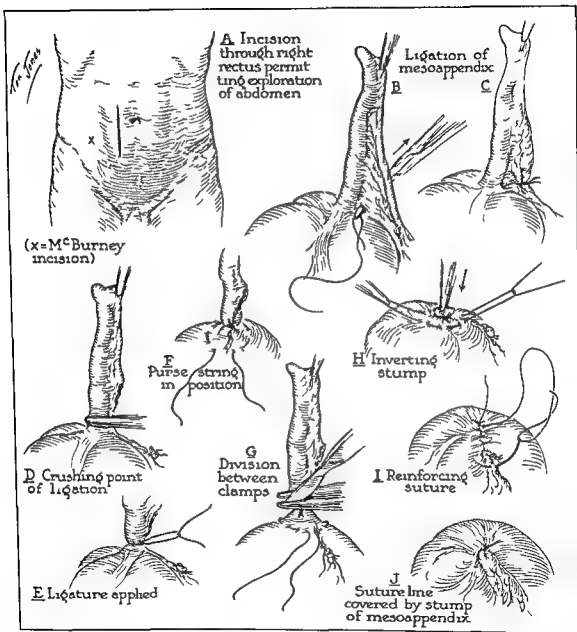
LIGATION OF VARICOSE SAPHENOUS VEIN



POPLITEAL ANEURYSM

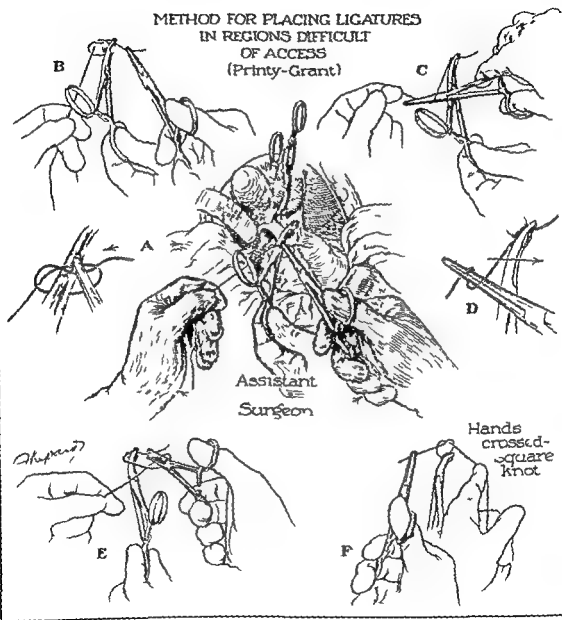


APPENDECTOMY

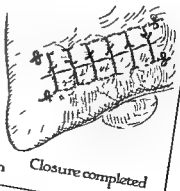
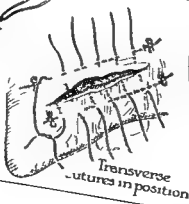
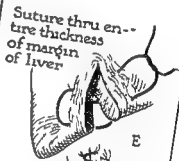
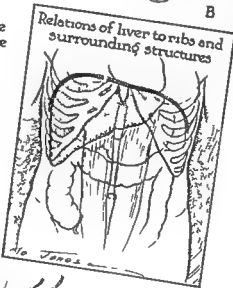
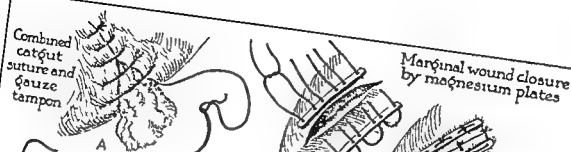


LIGATURE TECHNIQUE

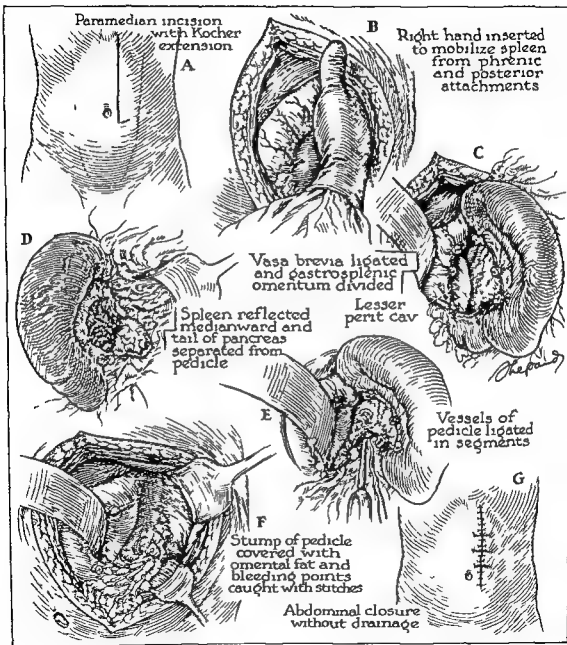
METHOD FOR PLACING LIGATURES IN REGIONS DIFFICULT OF ACCESS (Printy-Grant)



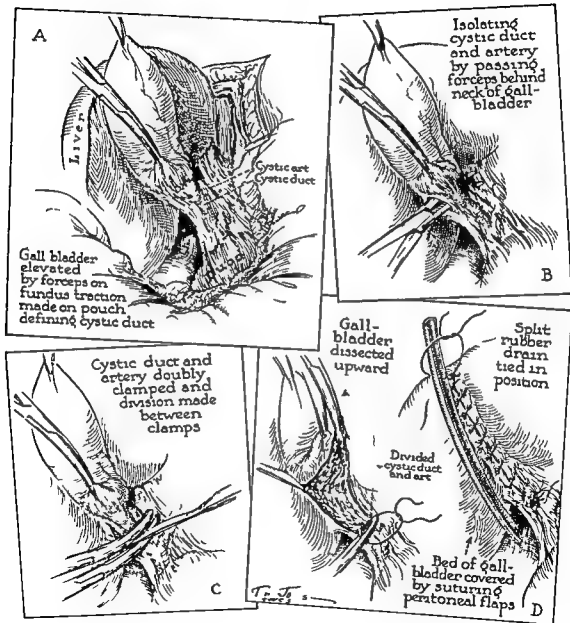
LIVER SUTURES



SPLENECTOMY



CHOLECYSTECTOMY



CHOLECYSTOSTOMY

Incisions for exposing
gall bladder

Gall bladder elevated
and incision made
in fundus

B

Calculi
removed

A

Tube anchored. Purse string suture
(May be included in 1st purse string)
C

2nd purse
string suture

T. Jones

Gauze
drain

E

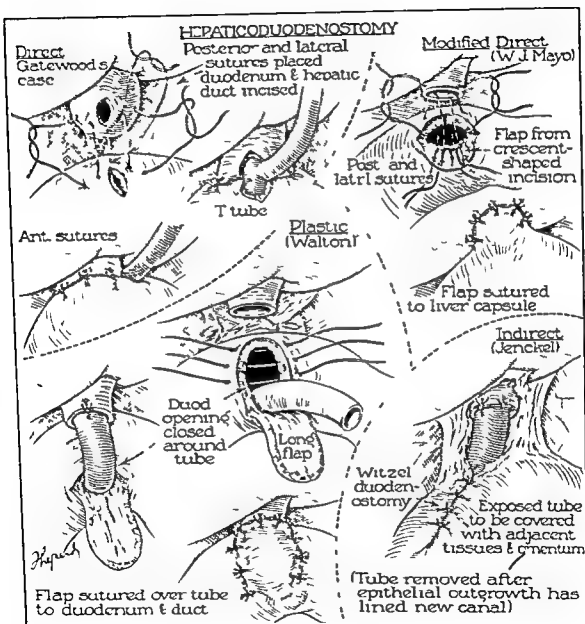
Alternate
method

Gall bladder
not anchored but
allowed to drop
back in abdomen

E

D
Fundus anchored
to peritoneum and
aponeurosis

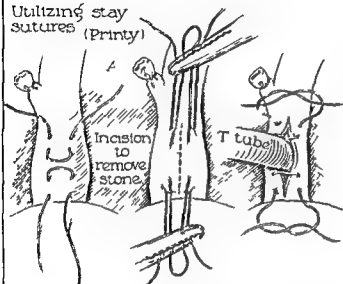
OPERATIONS ON BILIARY TRACT (No 2)



OPERATIONS ON BILIARY TRACT (No 1)

SUTURE OF THE COMMON DUCT AFTER REMOVAL OF STONE

Utilizing stay
sutures (Printy)



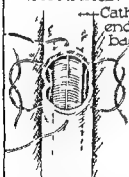
Simple
thru
and
thru



Purse
string
(Mayo
Robson)

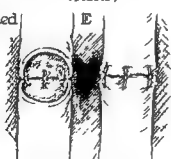
REPAIR OF INJURIES TO DUCT (with or without drainage)

D
Partly severed
(Mc Arthur)



Catheter extends
into duodenum

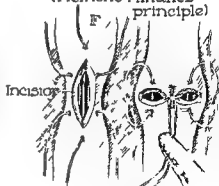
Completely severed
(Kehr)



suture of
posterior
wall

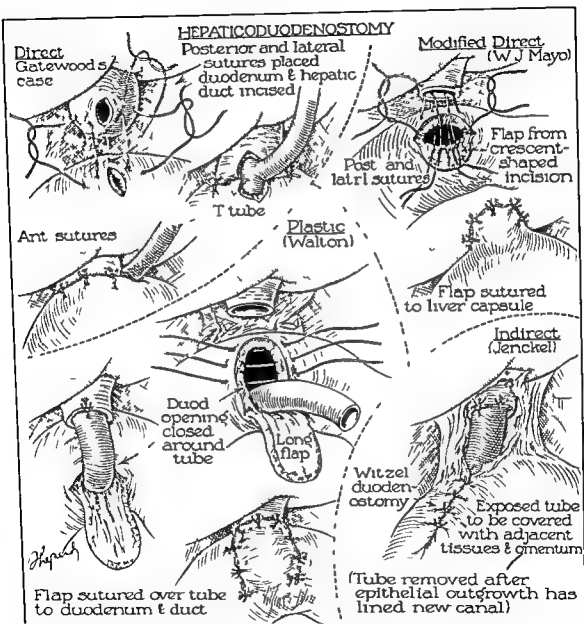
suture of
anterior
wall

Partial stricture
(Heineke Mikulicz
principle)



Chapa

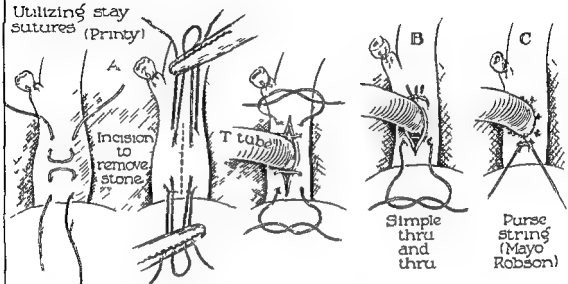
OPERATIONS ON BILIARY TRACT (No 2)



OPERATIONS ON BILIARY TRACT (No 1)

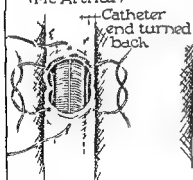
SUTURE OF THE COMMON DUCT AFTER REMOVAL OF STONE

Utilizing stay
sutures (Printy)



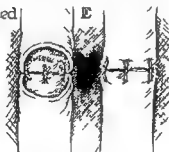
REPAIR OF INJURIES TO DUCT (with or without drainage)

Partly severed
(Mc Arthur)



Catheter extends
into duodenum

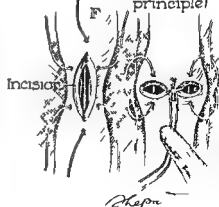
Completely severed
(Kehr)



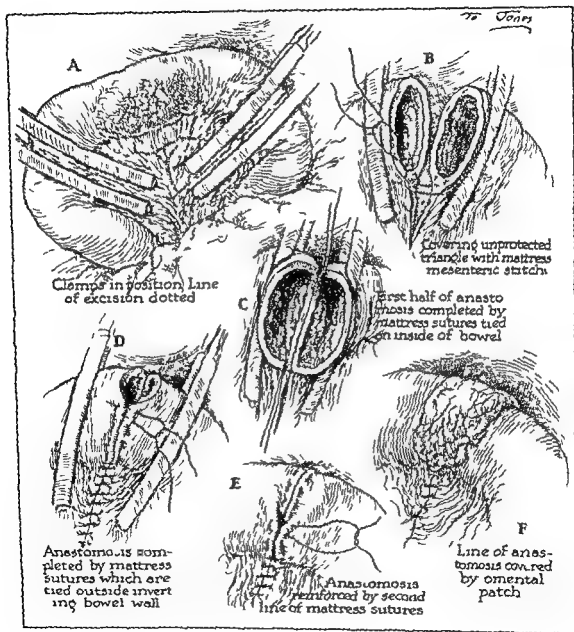
suture of
posterior
wall

suture of
anterior
wall

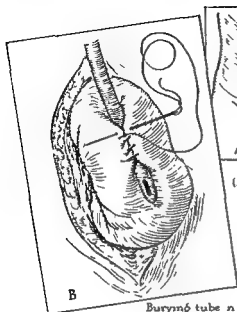
Partial stricture
(Heineke Mikulicz
principle)



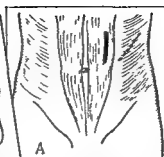
END TO-END ENTERO ENTEROSTOMY (DYAS)



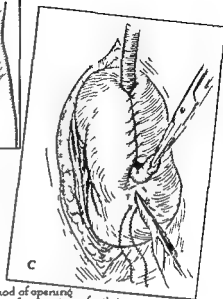
ENTEROSTOMY



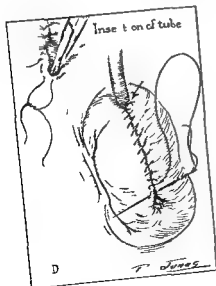
Burying tube in wall of ant. t. n.



Incision
(Alternate incision shown by dotted line)

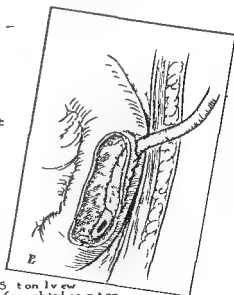


Method of opening antest. n. f. u. s. r. t. on of cath. r.



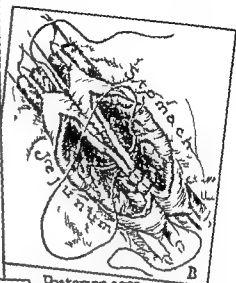
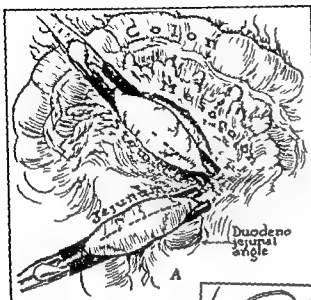
The Lembert Suture

Completion of closure by continuous & serosa suture. A row shows fixation of tube by reflection.



Superior view of completed operation

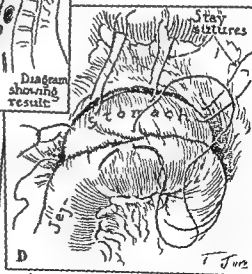
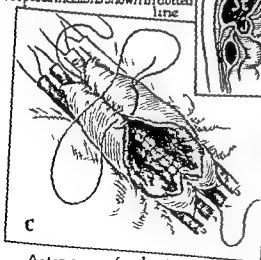
POSTERIOR GASTROJEJUNOSTOMY



Stomach drawn thru slit meso-
colon clamped & ready for approx-
imation with fold of jejunum
Proposed incisions shown in dotted
line



Posterior sero-
muscular suture placed
Posterior marginal suture
being placed



Anterior marginal suture

Anterior seromuscular suture

GASTRODUODENOSTOMY (FINNEY'S TECHNIQUE)

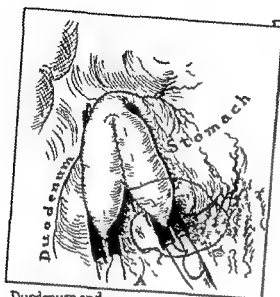


Diagram A: Duodenum and stomach clamped. First line of sutures being placed. Incision shown by dotted line.



Diagram B: First or posterior line of sutures completed. Inner through and through suture being placed.

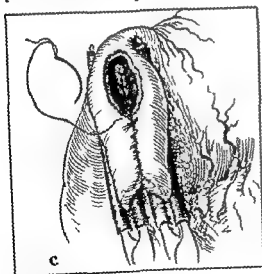
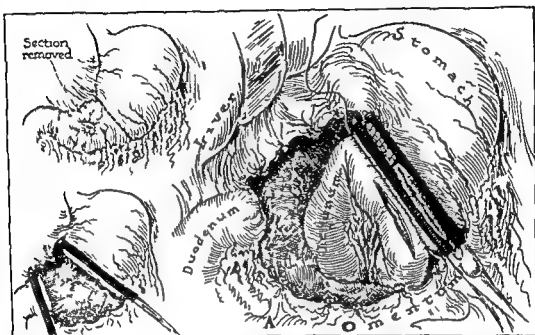


Diagram C: Anterior tier of sutures nearly completed.

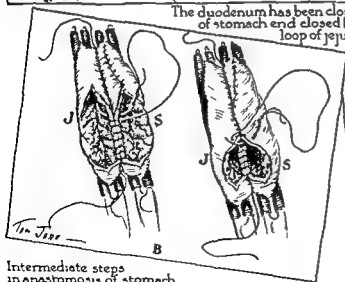


Diagram D: Operation completed. Outer line of seromuscular sutures seen.

PARTIAL RESECTION OF STOMACH (POLYA)



The duodenum has been closed by invagination. Upper $\frac{1}{3}$ of stomach end closed by suture. Anastomosis between loop of jejunum and lower $\frac{2}{3}$ of stomach opening begun.



Intermediate steps in anastomosis of stomach and jejunum

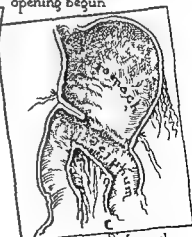
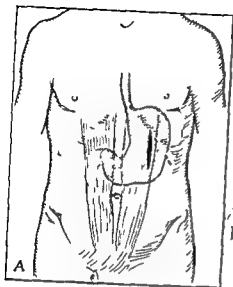
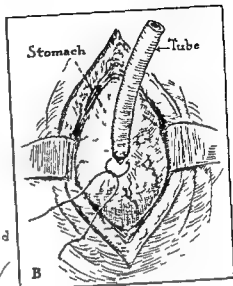


Diagram showing finished result in section

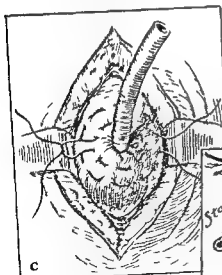
GASTROSTOMY (STAMM METHOD)



A
Incision (Alternate incision shown by dotted line)



B
Tube fixed in stomach wall by single stitch

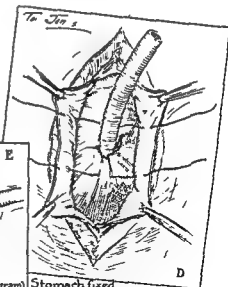
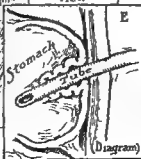


C
First P. rose string suture tied. Two others placed

Reinforced
suture
not

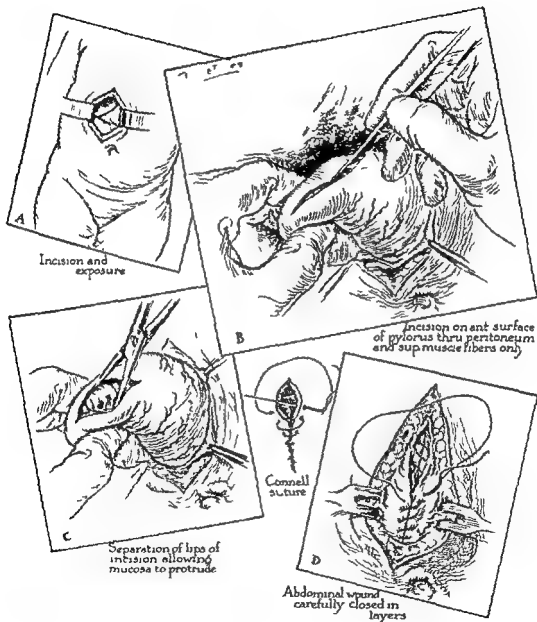


Sectional
view



F
Stomach fixed to ant abdominal wall

RAMMSTEDT OPERATION FOR PYLORIC STENOSIS



PANCREATIC CYST

Point of approach indicated by direction of growth of cyst

Gastrocolic omentum
(most frequent)

Gastrohepatic
omentum

Post leaf of
mesocolon

Pancreas

Skin incision in
midline or over tumor
if contour prominent

Cyst aspirated incised
and mopped out with
sponges

Marsupialization

Cyst margin
Skin

Sponges
used to
prevent
soiling
abdomen

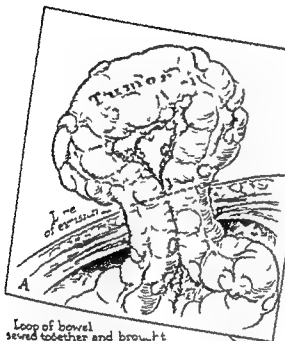
Purse string
about
drain

Perirenal fat

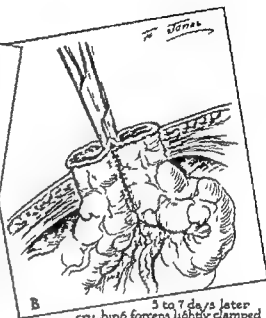
Wall of
cyst too
short to
marsupial
ize

Cyst of tail
reached thru
kidney incision

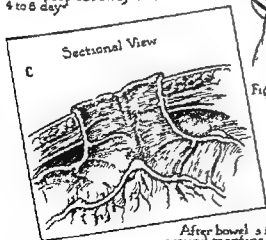
PARTIAL RESECTION OF COLON (MIKULICZ)



Loop of bowel
sewed together and brought
out through wound. No
fixation to peritoneum and
fascia. Loop cut away after
4 to 8 days.



3 to 7 days later
crushing forceps lightly clamped
on opposed bowel walls and tightened
daily until septum is cut through



After bowel is freed from
wound margin opening is invaginated
and closed with Lembert sutures

INTUSSUSCEPTION

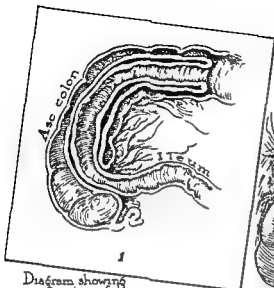
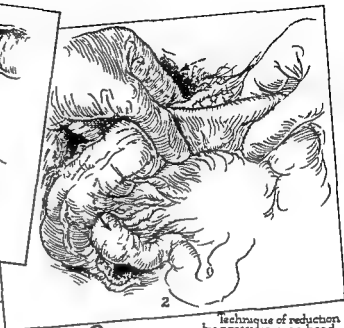
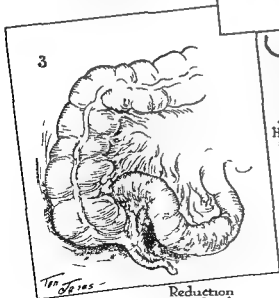


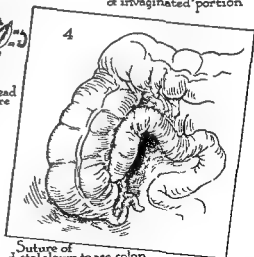
Diagram showing invagination of ileum into large bowel



Technique of reduction by pressure upon head of invaginated portion



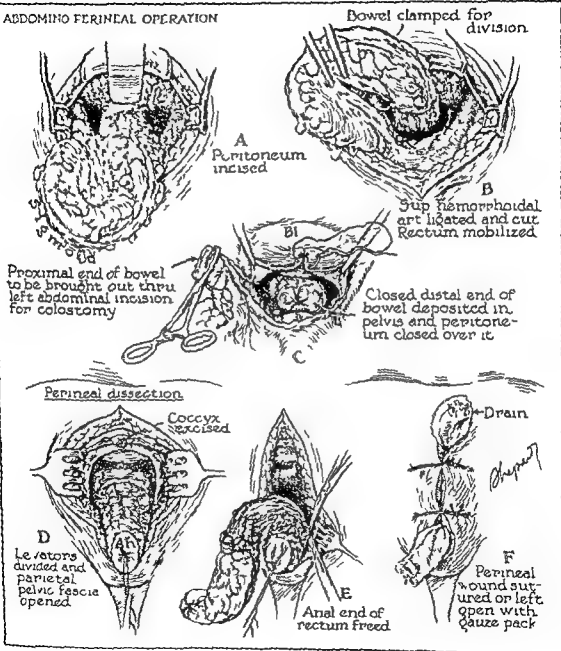
Reduction completed



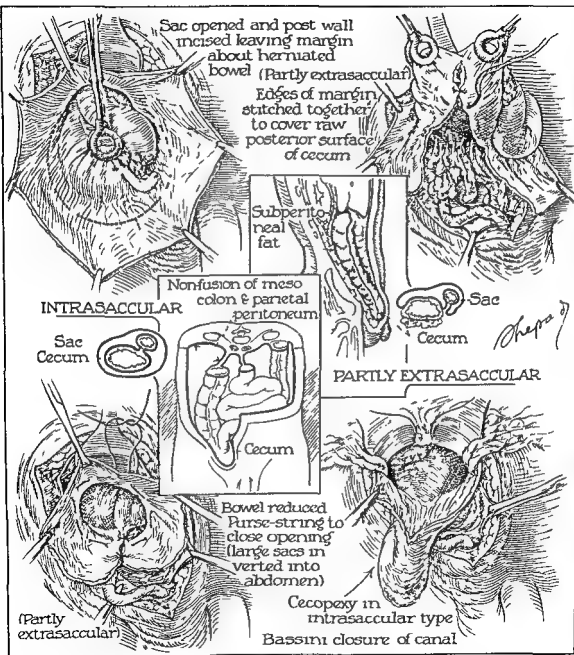
Suture of distal ileum to asc colon to prevent recurrence

RESECTION OF THE RECTUM

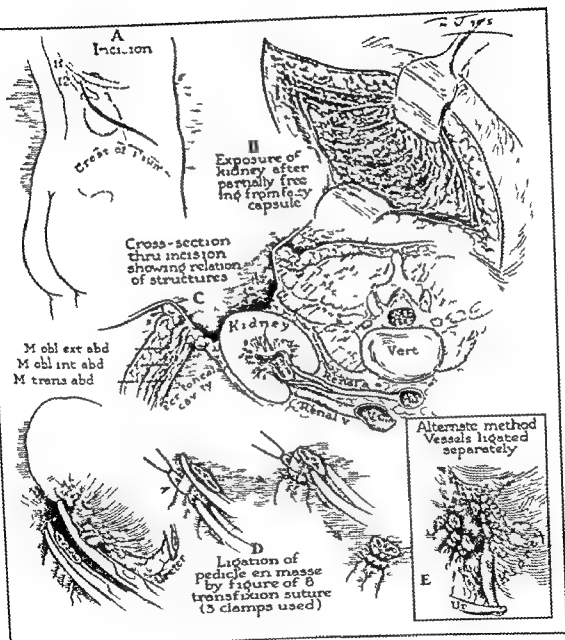
ABDOMINO PERINEAL OPERATION



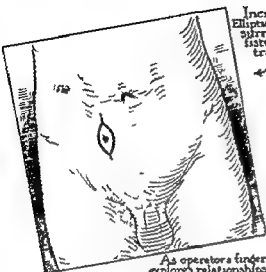
SLIDING HERNIA OF THE CECUM



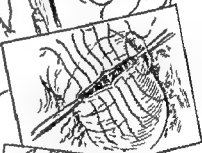
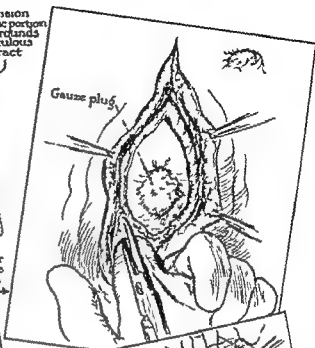
NEPHRECTOMY



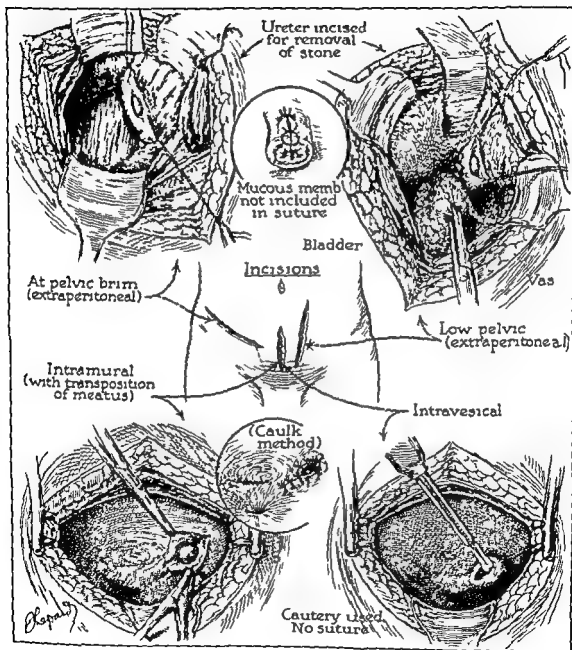
FECAL FISTULA



As operator's finger
explores relationships
excision of tract is com-
pleted by scissors →



REMOVAL OF LOW URETERAL CALCULUS



NEPHROTOMY FOR RENAL CALCULI

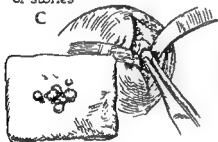
To Jones & V.C. Shepard—



A
X ray
showing
stones

Removal
of stones

C



D

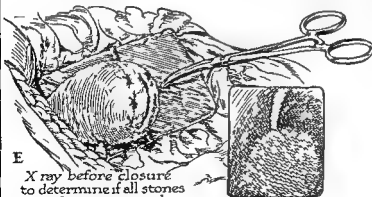
Two methods of
closure of incision
into kidney



Fat

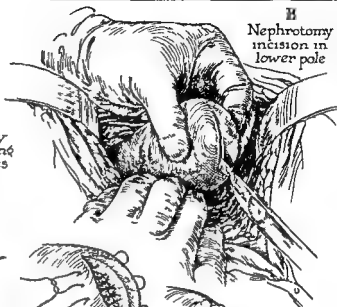
E

X ray before closure
to determine if all stones
have been removed



H

Nephrotomy
incision in
lower pole

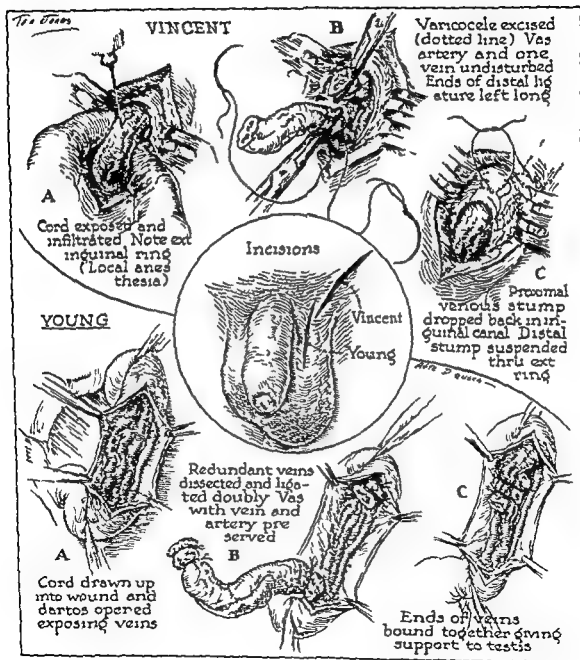


F

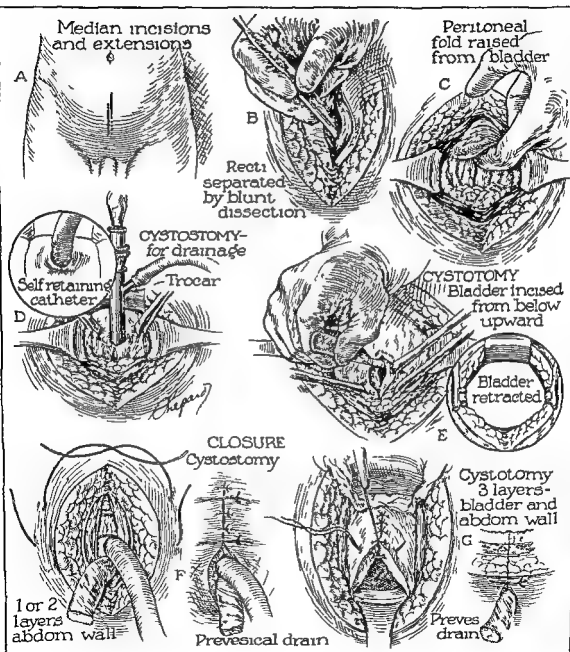
Skin
closure



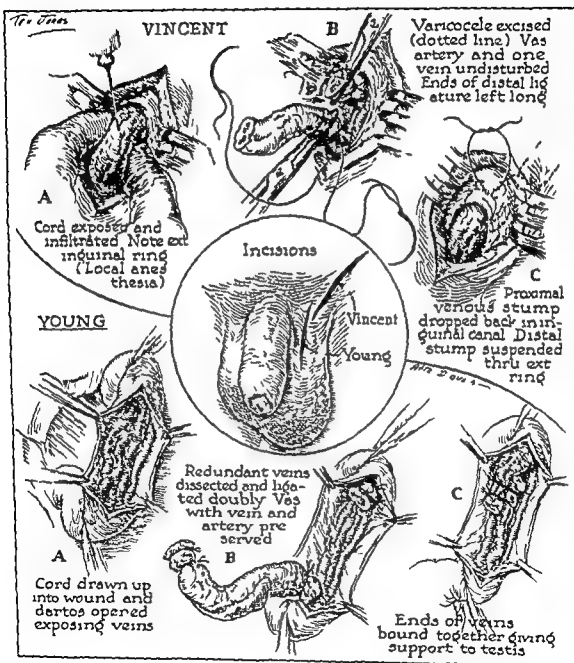
OPERATIONS FOR VARICOCELE (OR VARICOCELECTOMY)



SUPRAPUBIC CYSTOSTOMY AND CYSTOTOMY

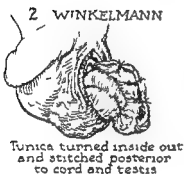
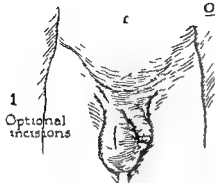


OPERATIONS FOR VARICOCELE (OR VARICOCELECTOMY)



HYDROCELE

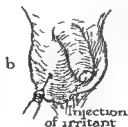
OPEN OPERATIONS



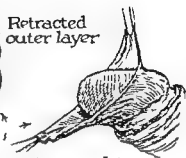
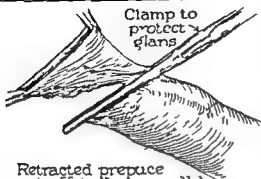
Tunica trimmed away
Hemostatic stitch about remaining margin



INJECTION METHOD



CIRCUMCISION



Retracted prepuce cut off in line parallel with corona

Inner layer trimmed to within one cm of corona



Alternate stitches of layers left long to include strip of vasalined gauze

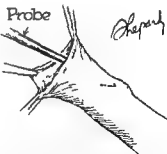
Desired result partly covered glans

SECOND METHOD

Cut

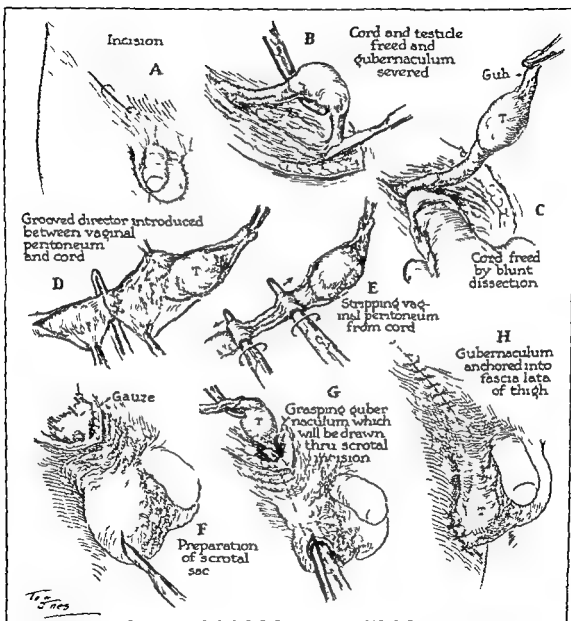
Adhesive

Dorsal split (Continuous suture of layers)

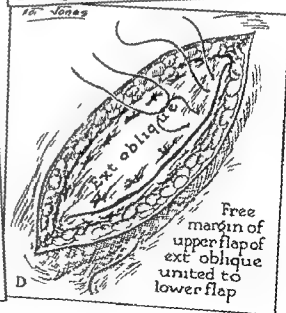
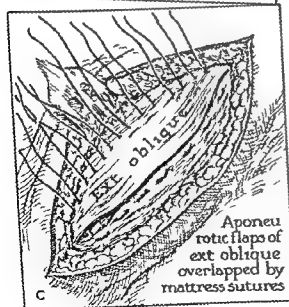
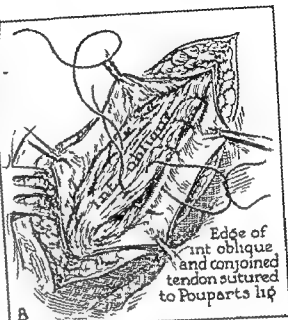
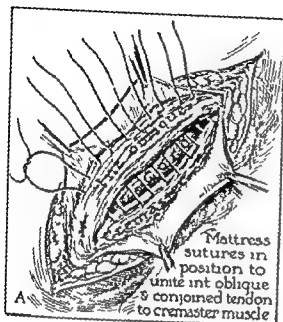


If adherent prepuce separated from glans

OPERATION FOR UNDESCENDED TESTIS (MCKENNA)



HALSTED OPERATION FOR INDIRECT INGUINAL HERNIA



BASSINI OPERATION FOR INDIRECT INGUINAL HERNIA

Internal oblique

Splitting aponeurosis
of ext oblique

Incision

Int ring
Ext

Hernial sac opened
and examined
with finger

Sac
-ligated

Alternate method

Aponeurotic
flaps overlapped

Suture placed
above cord

Deep
sutures of
catgut or kangaroo
tendon approx-
imating int obl and
transversalis to Poupart's lig.

Subcutaneous fat
-sutured with
catgut

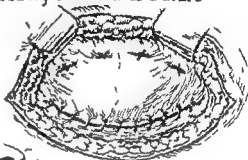
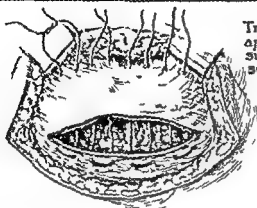
Split aponeu-
rosis of ext
obl closed with
running suture

To Jones

METHODS OF REPAIR IN LARGE UMBILICAL HERNIA

A

Transverse overlapping of
aponeurotic flaps by mattress
sutures Free edge of upper flap
secured by continuous suture

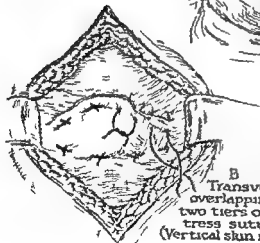


Incisions
Elliptic transverse
Elliptic vertical

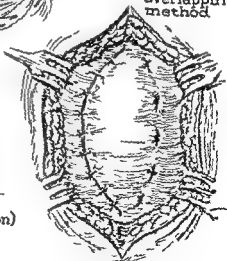


C

Lateral
overlapping
method



B
Transverse
overlapping by
two tiers of mat-
tress sutures
(Vertical skin incision)



T. J. Jones

REPAIR OF FEMORAL HERNIA

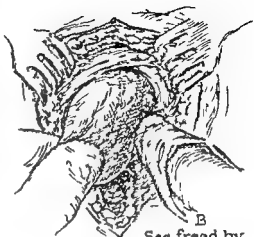
A
Incision



C
Contents of
sac reduced



B
Sac freed by
blunt dissection



Purse string?

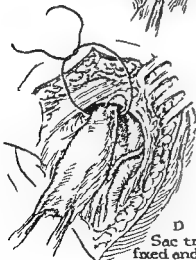


Closure
of femoral
opening
(Two methods)

Bassini

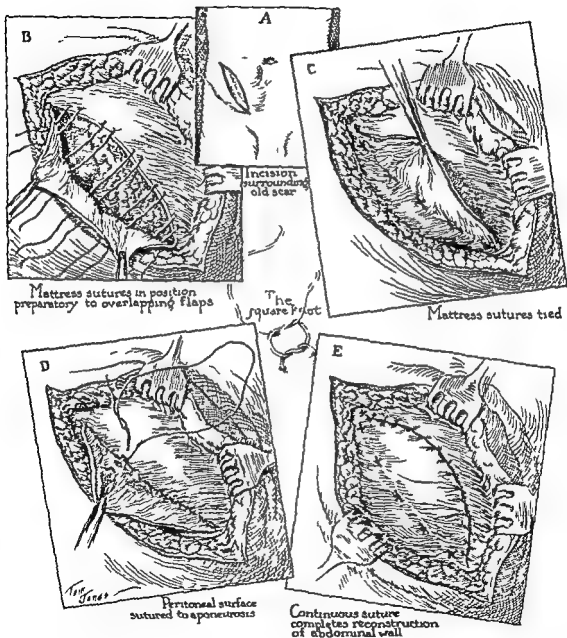


D
Sac trans-
fixed and tied



Tim Jones

AN OPERATION FOR POSTOPERATIVE VENTRAL HERNIA (JUDD METHOD)

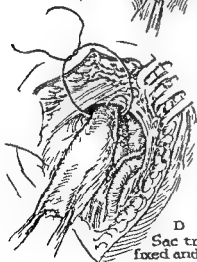
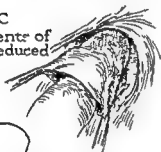


REPAIR OF FEMORAL HERNIA

A
Incision

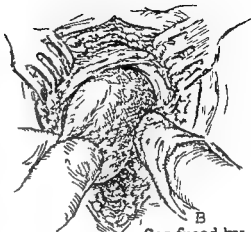


C
Contents of
sac reduced



D
Sac trans-
fixed and tied

B
Sac freed by
blunt dissection



Closure
of femoral
opening
(Two methods)

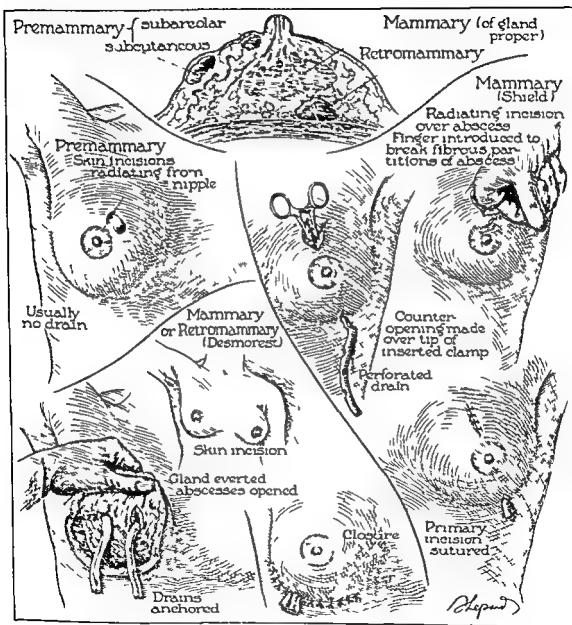
Bassini



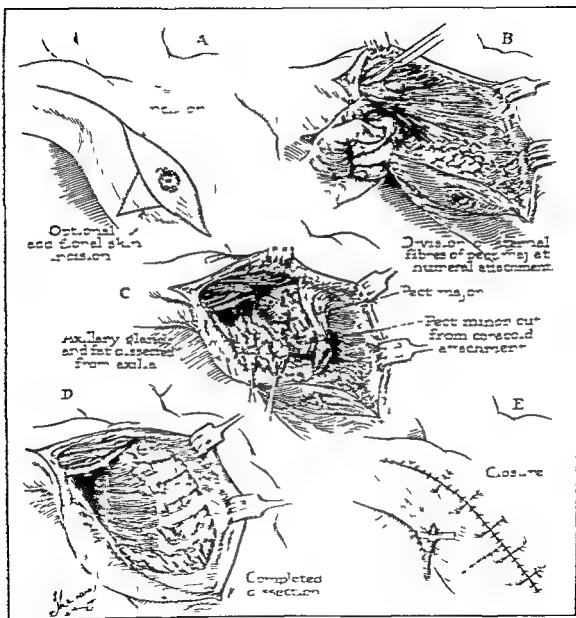
Purse string?

T. M. Fries

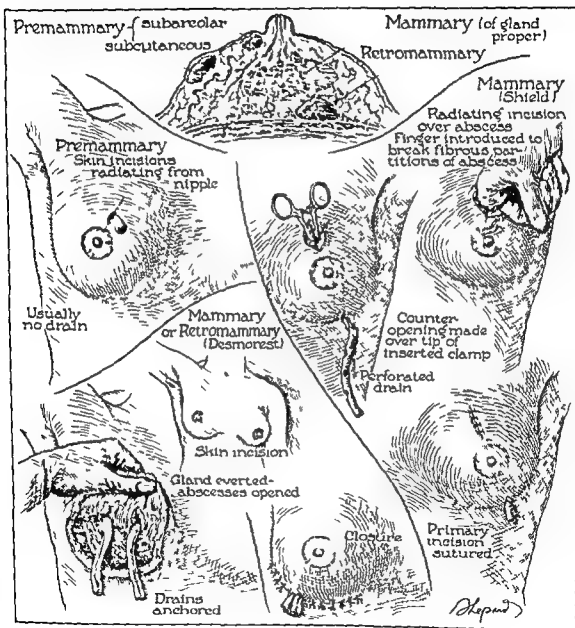
MAMMARY ABSCESS



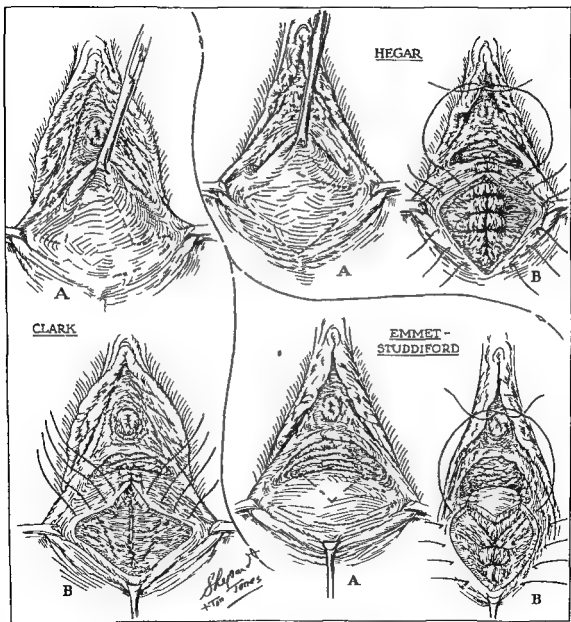
RADICAL AMPUTATION OF THE BREAST



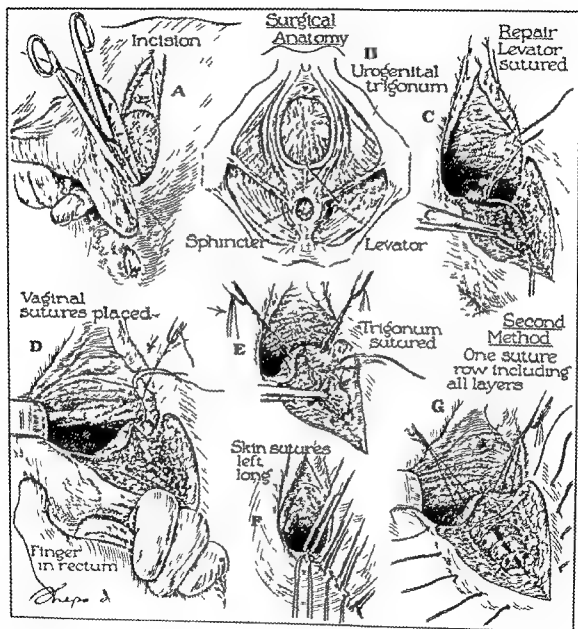
MAMMARY ABSCCESS



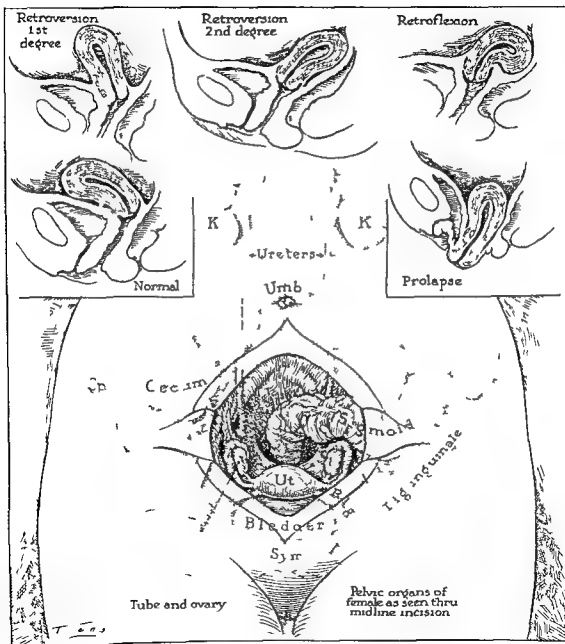
REPAIR OF PERINEUM



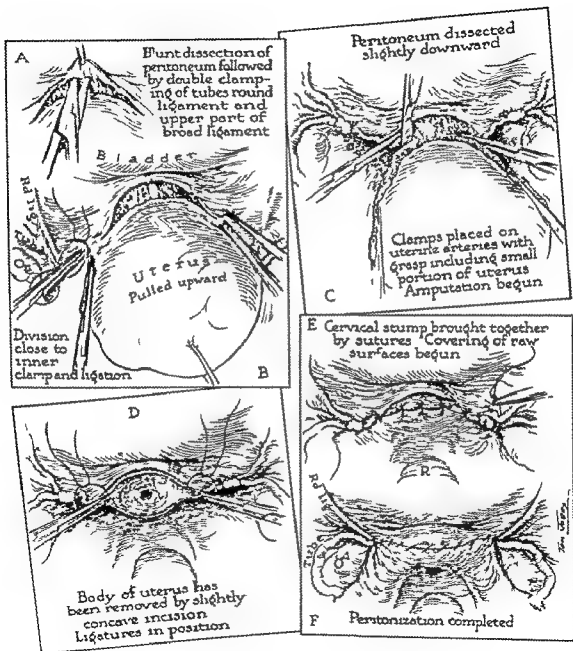
EPISIOTOMY



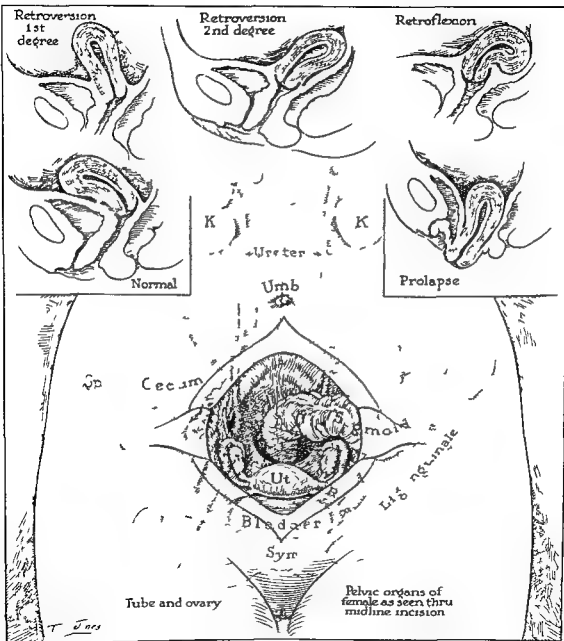
SURGICAL ANATOMY OF THE UTERUS



HYSTERECTOMY (CURTIS)

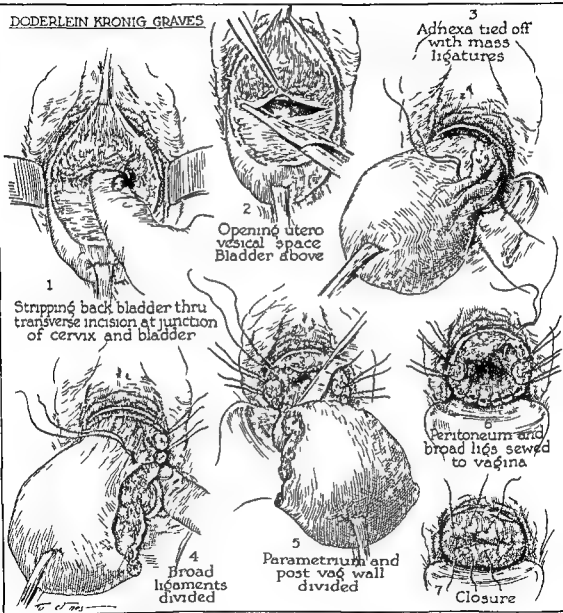


SURGICAL ANATOMY OF THE UTERUS

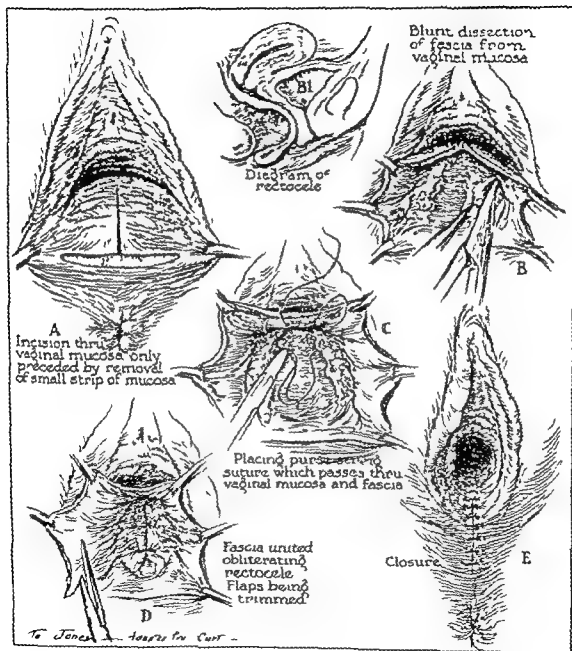


VAGINAL HYSTERECTOMY

DODERLEIN KRONIG GRAVES



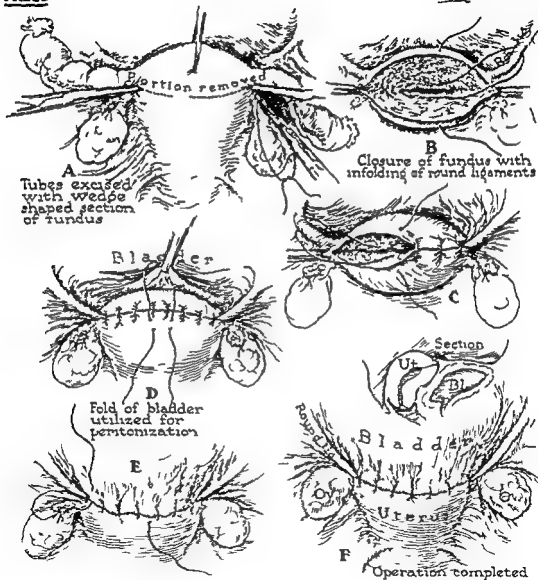
REPAIR OF RECTOCELE



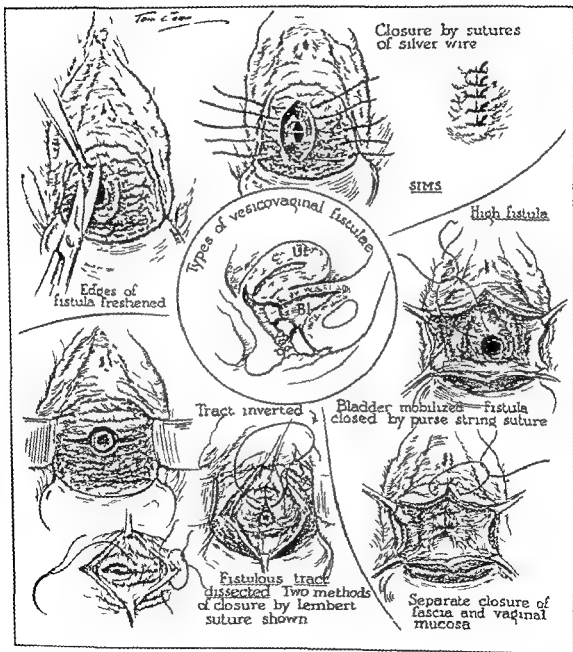
SALPINGECTOMY WITH DEFUNDECTOMY

FALLS

Ten Jones



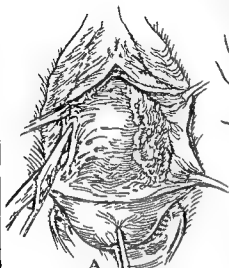
REPAIR OF VESICOVAGINAL FISTULA



REPAIR OF CYSTOCELE

ADVANCEMENT OPERATION

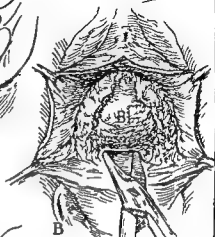
*Adapted from Cuthbertson
1911 Jones*



A
Fascia separated
from vaginal flaps



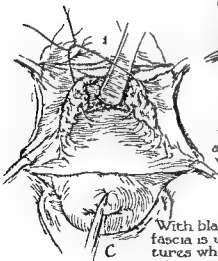
Diagram of
cystocele



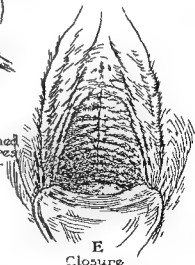
B
Bladder freed
by blunt dissection



D
Vaginal flaps trimmed
and united by sutures
which grasp under-
lying fascia



C
With bladder elevated
fascia is united by su-
tures which enter
uterus



E
Closure

ETHICON SUTURES

STRONG SUPPLE SMOOTH UNIFORM HEAT-STERILIZED



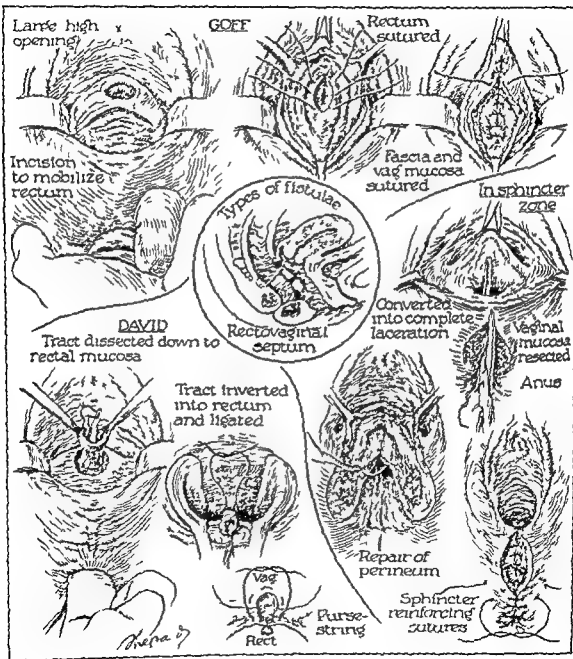
JOHNSON & JOHNSON began producing surgical sutures in 1887. Our experience of more than half a century has led us to the production of what thousands of surgeons in all parts of the world consider the most dependable catgut ever devised—Ethicon Non-Boilable Catgut Sutures.

Our scientific staff includes the most capable men available, who devote their entire time to experiment and control in our laboratories in the United States, England, and Australia.

Absolute sterilization by heat without impairment of tensile strength is the daily production standard of Ethicon Non Boilable Catgut Sutures. As taken from the sterile tubes they possess more tensile strength than is required to ligate the largest human blood vessel or to suture the densest human tissue.

Ethicon Non Boilable Catgut Sutures are produced by exclusive procedures from the raw material to the final stage of packaging and inspection in our laboratories. They are supple smooth and uniform.

RECTOVAGINAL FISTULA



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